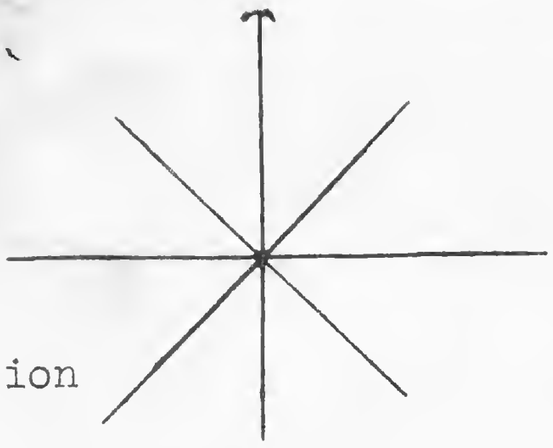

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 28 Feb 67
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0630					begin
0633	WR SP	1	e		
0640	WR SP	1	e		
0655	WR SP	1	e		
0720	Shear Pet	1	e		
0728	WR SP	1	e		dark
0806	WR SP	1	e		
0807	R. Phalarope	1	e		
0821	Leach's	1	e		
0940	Leach's	1	e		
0953	WR SP	1	e		
1030					stop
1415					go
1527	WR SP	2	e		
1530	Sooty Tern	3	e		2 Ad 1 imm
1532	WR SP	1	e		
1535	Dark. Rump	1	e		beautiful
1540	Sooty Tern	2	e		Ad + imm
1543	WR SP	1	e		
1547	WR SP	1	e		
1554	WR SP	1	e		
1545	Sooty Tern	1	e		Ad
1818					Sunset

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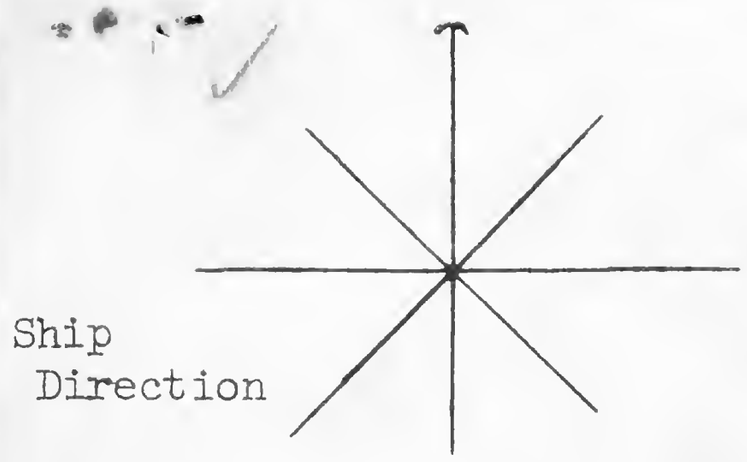
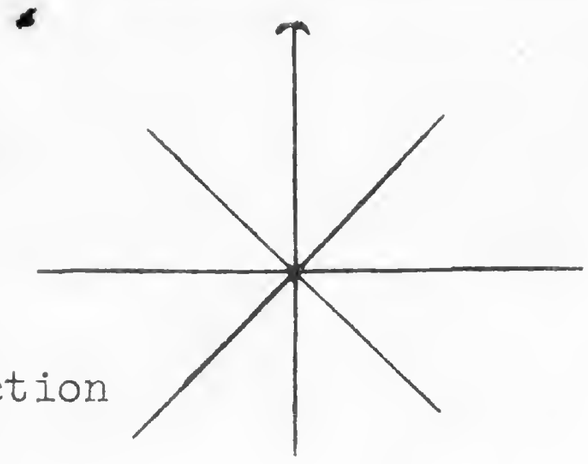


SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
R/U Jordan
1 March 1967

Date March 1 67
Pg.# 1 c

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0700					begun
TF	0816	Sooty Tern	9	SE		Hd
	0914	Pterodroma sp	1	a		med size white below
	0918	Fairy Tern	1	a		
	0919	bi W Petrel	1	a		
	0922	WRSP	1	e		
	0930	WRSP	1	a		
	0946	BWP	2	NE		
	0952		1	a		over manta ray with 2 small sharks in front
						Sperm whale 1
	1012	Leachs	1	a		one pure white
		BWP				
	1020	Leachs	1	a		
	1029	WRSP	1	a		
	1038	Leachs	1	a		
	1043	WRSP	1	a		
	1047	BWP	2	e		
		WWP	2	a		
	1100	WRSP	1	e		
	1330		9			ST-P
						90
	1406	WRSP	1	a		
	1422	WRSP				
	1426	Phalaropes,	1	a		
				a		
	1611	Fairy Tern	1	a		
	1820					Sunset



Ship
Direction

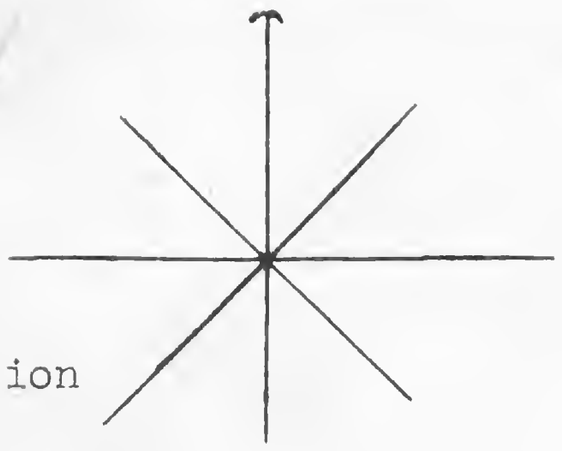
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal

Date 1 March
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
2130					begin
2235	sooty Tern	1	a		Ad
2240	Sooty Tern	2	a		Ad - calling
2246	sooty Tern	1	a		Ad
2305	Phalarope	1	a		calling
2318	Sooty Tern	4	a		3 Ad 1 imm calling
2320	Fairy Tern	1	a		
2321	Phalarope	1	a		calling
2334	Sooty Tern	2	a		Ad - calling
2346	Sooty Tern	2	a		Ad calling
2353	Shear. Pet	1	a		
2359	sooty tern	1	a		



Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R/V Jordan

Date 2 March 1967

Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0630					begin
	0631	Shear Pet	1	a		dark
	0734	WR SP	1	a		
	0759	WRSP	1	a		
	0816	Fairy Tern	2	a		
TF	0825	Sooty Tern	7	5		Ad
	0845	Sooty Tern	2	a		Ad
	0846	Fairy Tern	1	a		
	0945	RTTB	1	a		
	0952	BWP	2	a		
	0958	BWP	1	a		
	1015	BWP	1	a		
	1020					hammerhead 12', 3' width
	1030					Stop Observations
	1345	Nasa Freight	1	a		playing in wake
	1400					Begin observations
	1447	Tahiti	1	a		
	1456	WWP	1	a		
TF	1527	Sooty Tern	20			
		JKP	1			
		Fairy Tern	2			
	1536	WWP	1			
	1655	WWP	1			
	1709	WWP	1	a		
		W.th.SP	2	a		
	1718	W.th.SP	1	a		
	1726	WRSP	3	a		(not Leach's)
	1729	R. Phalarope	3	a		" "
	1738	WWP	1	a		
	1746	WRSP				
	1755	RTTB	1	a		
			1	a		
	1820					Sunset

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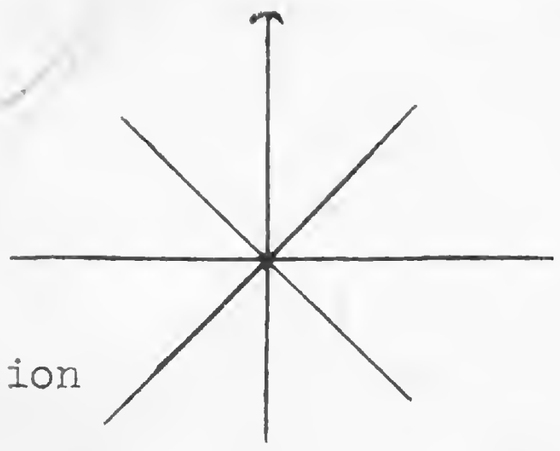


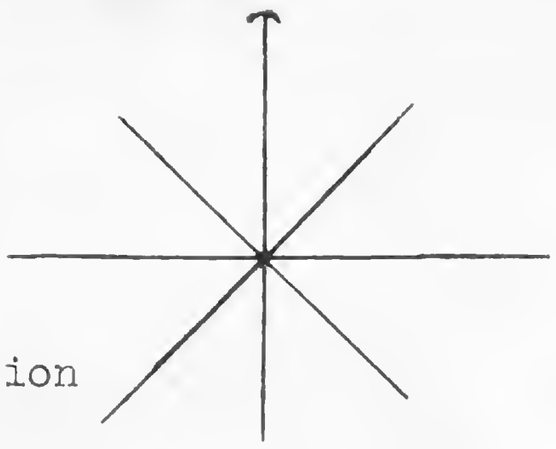
Ship Direction

OBSERVERS:
R/V Jordan

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 31 March 1967
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0800					begin
	0810	WWP	1	a		
	0840	W. th. SP.	1	a		
	0856	~~Pterodroma sp~~ WWP	2	a		small
	0902	WWP	1	a		
	0903	WRSP	1	a		
FF	0910	Sooty Tern	13			flying fish, schools of 50± chased up by skipjack
		Fairy Tern	1			
		RYTB	1			
		WWP	6			
		TFP	1			
	0922	WRSP	1	a		
	1058	WWP	2	a		
	1100					Stop Observations
	1430	WRSP	1	a		2nd - Begin Observations
	1431	W. th. SP	1	a		
	1436	WWP	2	a		
	1440	WRSP	1	a		
	1517	WWP	2	a		
F	1519	WWP	6	a		on H_2O
	1521	RYTB	1	a		overship
	1529	WWP	1	a		80
	1556	WWP	1	a		
	1606	Murphy's	1	a		
	1608	WWP	1	a		
	1611	TFP	3	a		
	1613	WWP	1	a		
FF	1625	Sooty Tern	23	a		Ad over jumping first 8" skipjack
	1634	WWP	1	a		
	1705	WWP	2	a		
		Murphy's	1	a		
	1821					Sunset



Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R/V Jordan

Date 4 March 1967
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0700					basin
	0710	WWP	1	e		
	0720	WWP	2	e		
FF	0825	Sooty Tern	12			
		WWP	4			
		OFP	1			
		Kermadec	1			light
		Murphy's	2			flying fish
		Fairy Tern	2			
		RTTB	1			
	0846	R. Phalaropе	1	e		
C	1000	RTTB	2	e		coll ine — stop observations
	1218	Murphy's	1	e		Sun set
	1315	RTTB	1	e		Begin Observations
						begin
	1430	stPet. Sp	1	e		way out
	1503	Slenderbill	1	NE		
FF	1755	kermadec				
		WWP	6			
		OFP	4			
		Murphys	3			
		Leach's	2			
		WRSP	2			
	1812	Pterodroma sp	1	e		Small, hypoleuca or leucoptera
	(1819)					Sunset
	1823					Sunset PW

3 4 2 4/63

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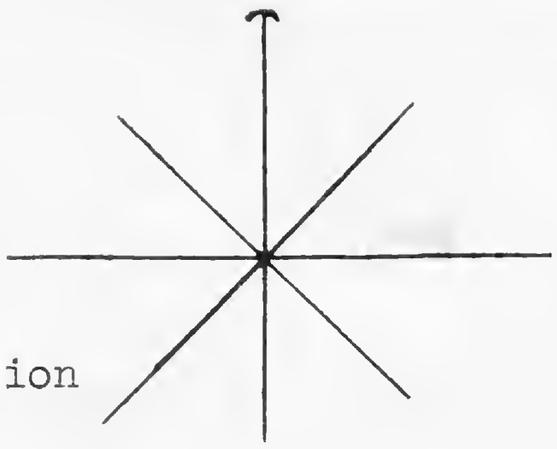

Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R/V Jaday

Date 5 March 1967

Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0700					begin
0716	BFB	1	a		imm overship
0718	B. wp	1	a		
0720	RTTB	1	a		
0722	RTTB	1	a		SAd — overship
0803	Bwp	1	a		SAd —
0826	Bwp	1	a		" "
0859	R. Phalarope	1	a		
0906	Pterodroma	1	a		
0907	WRSP	1	a		on H_2O large, JFP like with flashy white patch on dors at surface of wing
0930	Leachs	1	a		
1030		2	a		
1345					St go
1410					So
	Shear. Pet				
1505	R. Phalarope	1	a		
1555	RTTB	1	a		
1635	Slenderbill	1	a		SAd overship
		1	NE		

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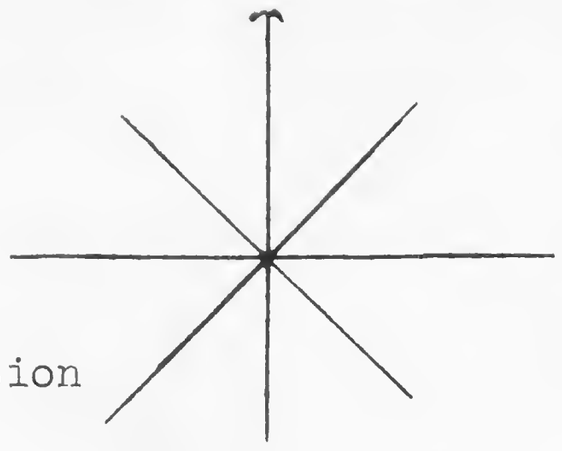


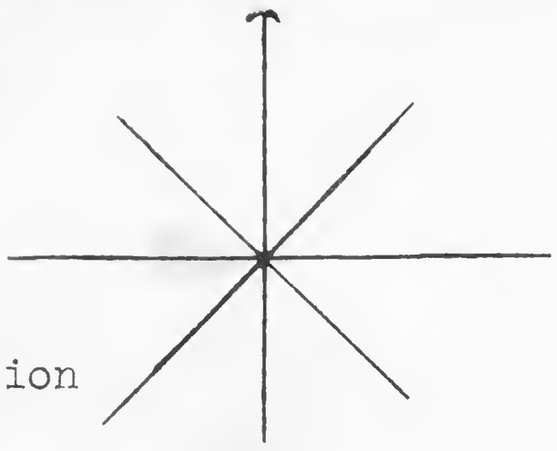
Ship
Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 6 March
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0700					begin
0812	BWP	1	e		
0826	R. Phalarope	1	e		
1030			a		stop
1125	RTB	1	a		
1400					go
1540	R. Phalarope	1	a		
1545	R. phalarope	2	a		
1630					close

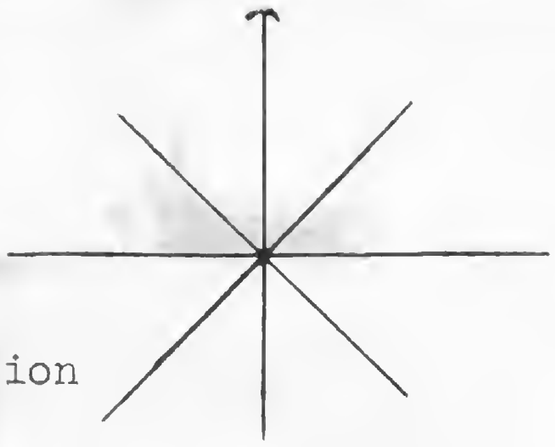


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 7 March
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					begin
0733	DFP	1	♀		in Wake
0754	JFB	1	♀		
0801	Pterodroma sp	1	♂		small
0807	RTTB				
0825	RTTB	1	♂		over ship
0830	RTTB	1	♂		over ship dove + caught flying squid
0859	RTTB	1	♂		joined 0825 stayed until 0842
1130		1	♂		over ship
1700					stop
1759	BWP	1	♂		begin



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 8 Mar
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0630					surfs up
	0646	RTTB	1	a		
	0658	BWP				over ship
	0707	Shear-Pet	1	a		
	0725	BWP	1	a		
	0810	Shear Pet	1	a		
	0841	BWP	2	a		white below, way out, man
	0844	BWP	1	a		on H_2O
	0927	RTTB	1	a		
	0936	BWP	1	a		S.Ad over ship
	0940	WRSP	1	a		
	1045	Shear.Pet	1	a		on H_2O
	1058	BWP	1	a		
	1111	Leach's	1	a		
	1130		1	a		STop
	1300					Go man
	1315	Shear.Pet	1	a		
	1316	Leachs		a		Small dark, Bulwer's or Leucopteran brevips
	1322	RTTB	1	a		
	1435	Leach's	1	a		
	1509	RTTB	2	a		over ship S Ad
	1526	WRSP	1	a		on H_2O
	1539	Pale-foot	1	a		S Ad
	1622	RTTB	1	a		
	1643	RTTB	1	a		[redacted]
	1721	Shear-Pet	1	a		S Ad
	1725	Pom. Jaeger	1	a		
	1740	RTTB	2	a		dark
	1745	WRSP	1	a		light
	1746	Fairy Tern	1	a		
	1750	BWP	1	a		
FF	1800	Sooty Tern	1	a		
		Pom Jaeger	70 Ts	a		
		L.T. Jaeger	4			
	1835	WRSP	2			
	1837			a		Sunset

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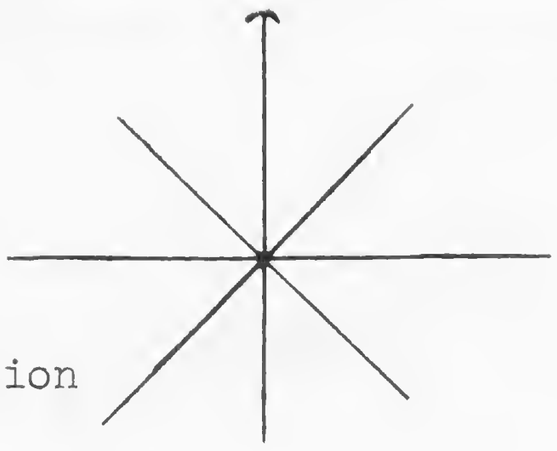

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 9 March
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0700	begin				
	0701	Leach's	1	a		
	0825	Shear. Per	1	a		
	0836	Murphy's	1	a		light
	0845	BWp	1	a		Dark
	0915					
FF	0945	Sooty Tern	7	e		Yellow fin feeding on flying fish, jumping out of H_2O shows Golden flash under water 18"-20"
		Fairy Tern	4	a		Ad
		Pom Jaeger	1	a		Ad light
	1100	Leach's	1	a		
	1105	Leach's	1	a		
	1122	Leach's	1	a		
	1230					
	1430					STOP
	1452	W. Th. SP				GO
	1806	Leachs	1	a		
	1832	Leachs	1	a		
	1845		1	a		
						Sunset

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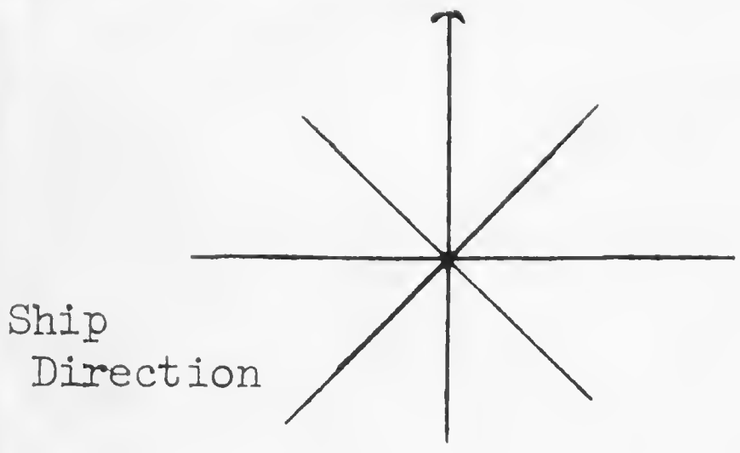
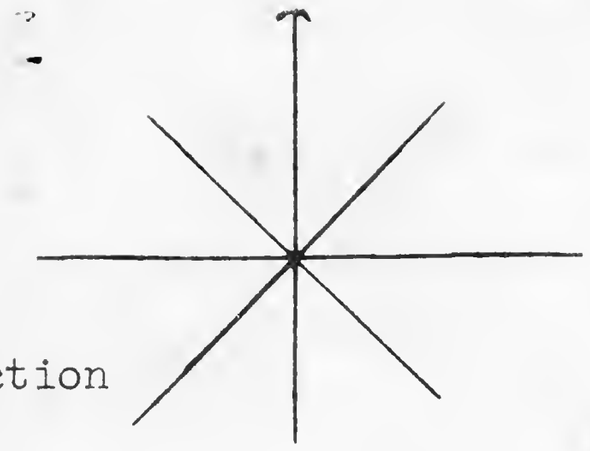


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 10 March
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					Begin
0715	W. th. S.P.	1	a		- in wake
1100					stop
1400					go
1456	RTB	1	Q		s. Ad
1735	Shear-RET	1	a		



Ship
Direction

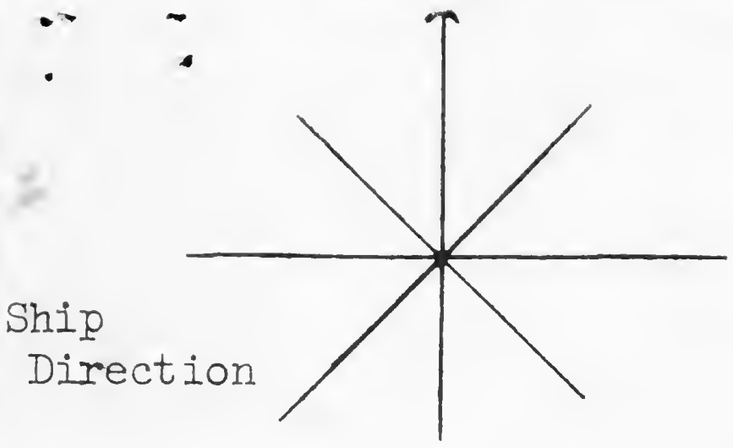
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 11 March
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0800					Begin
0833	BWP	1	a		
0851	BWP	1	e		
1058	Sooty Tern	12	a		11 Ad 1 imm
1100					Stop

Choppy, grey, light rain squalls



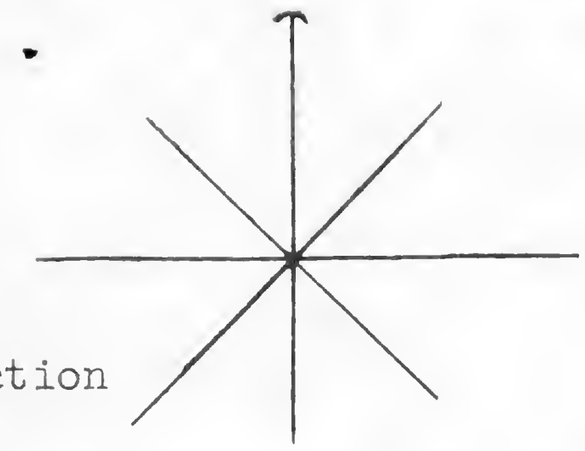
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 11 May
Pg.# 3

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
SF	1504	Sooty Tern	7			6 Ad, 1 imm
		WRSP				
	1517	WRSP	1			
	1528	Leach's	1			
	1609	WWP	1			
	1624	Sooty Tern	1	a		
FF	1630	Sooty Tern	1	a		Ad
	1644	WRSP	70±	a		
	1725	Ptrodroma	2	a		
			1	a		small

1736
1 F.term.



OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal
Drifting - mist

Date 11 March
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	2130					begin
	2132	WRSP	1			
	2134	R. Phalarope	6			calling
	2147	Sooty Tern	3			calling
C	2154	Sooty Tern	2			Calling Ad coll
	2205	Sooty Tern	4			"
	2210	WRSP	1			
	2212	Sooty Tern	3			
	2215	R. Phalarope	3			
C	2220	Sooty Tern	7			imm coll
	2227	WRSP	1			
	2229	Sooty Tern	3			
	2240	Sooty Tern	4			
	2245	R. Phalarope	3			
	2246	WRSP	1			total of 12 calling and flying around ship
C	2254	Sooty Tern	9			S. Ad coll
	2304	Sooty Tern	3			
	2308	Sooty Tern	1			
	2309	WRSP	1			
	2318	Sooty Tern	6			
	2322	Sooty Tern	2			
	2324	WRSP	1			
	2326	Sooty Tern	5			
	2334	Sooty Tern	2			
	2337	WRSP	1			
	2338	Sooty Tern	8			
	2344	Sooty Tern	11			
C	2352	Sooty Tern	3			1 coll

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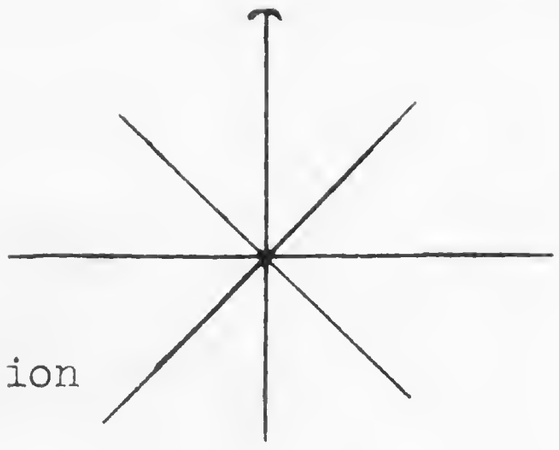


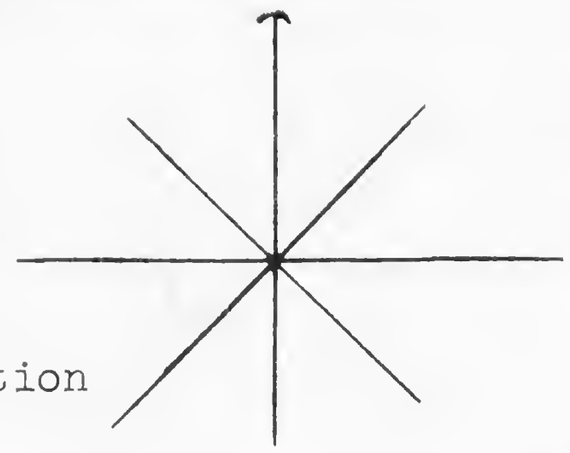
Ship
Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 12 March
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1000					50
	1030					stop
	1430					go
F	1436	Leach's	5	e		on H₂O
	1438					white tipped shark 5'
	1450	Leach's	1	e		
	1456	Leach's	1	e		
	1510	Leachs	1	e		
	1536	Leachs	1			
	1540	Leachs	2			
	1548	Leachs	1			
	1552	R. Phalarope	1	e		
	1822	Leach's	2	e		
	1827	Leach's	1	e		

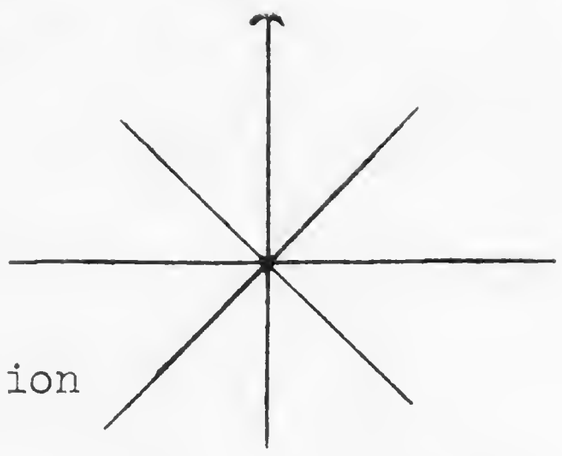


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 13 March
Pg.# 1

	TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
	1330	←				begin
F	1425	Leach's	5	e		on H₂ d
	1506	Leach's	2	e		
	1550	Leach's	1	e		
	1630	Leach's	1	e		
	1803	Leach's	2	e		



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 13 March
Pg.# 1

Nocturnal

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
2130					begin
2315	WRSP	1	a		
2400					end

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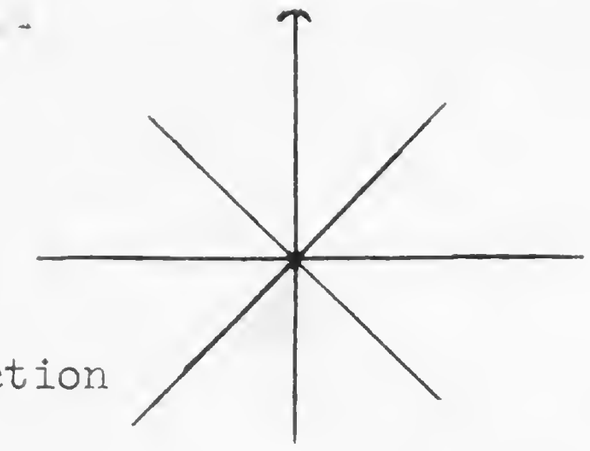
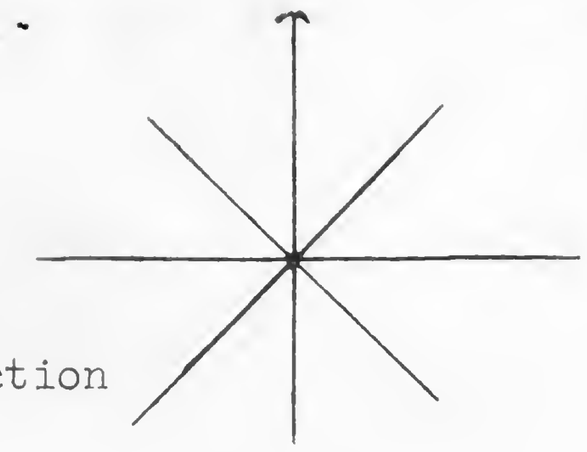


SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 14 March
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0634					Sunrise
0645	R. Phalarope	1	e		on bird
0646	WRSP	1	a		
0647	Leach's	1	a		
0709	Leach's	1	a		
0742	WRSP	1	a		
0743	WRSP	1	a		
0745	WRSP	1	a		
0746	WRSP	1	a		
0754	R. Phalarope	1	a		
0755	WRSP	3	a		
0800	Leach's	2	a		
0804	R. Phalarope	1	a		
0806	WRSP	1	a		
0810	WRSP	1	a		
0811	WRSP	1	a		
0818	WRSP	1	a		
0822	Leach's	1	a		
0827	Leach's	3	a		
0830					Porpoises 25
0832	Leach's	2	a		
0837	WRSP	2	a		
0841	Leach's	2	a		
0847	WRSP	1	a		
0853					porpoises 10
0856	Leach's	2	a		
0900					Porpoise 1
0904	WRSP	1	a		
0910	WRSP	1	a		
0911	Leachs	1	a		
0920	Leachs	2	a		
0921	Red-[illegible]	1	a		JFP or small apecis?
0935	Leachs	2	a		
0938	R. Phalarope	4	a		
1006	Leachs	1	a		
1008	R. Phalarope	1	a		
1026	R. Phalarope	3	a		

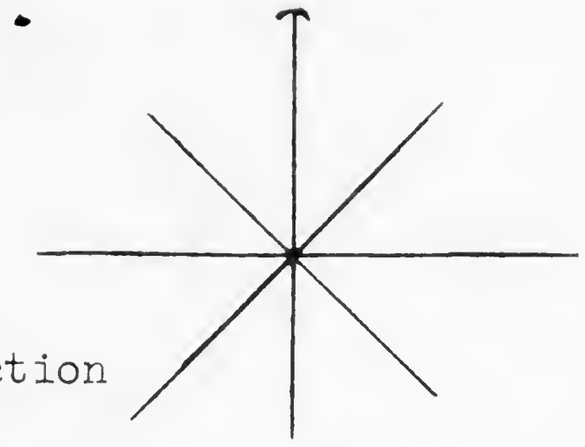


SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 14 March
Pg.# 2

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1044					Porpoise 20
1045	WRSP	2	a		
1048	WRSP	1	a		
1055	WRSP	1	a		
1102	Leachs	2	a		
1115					stop
1435	Leachs	1	a		
1500					go
1532	Leachs	2	a		
1535	Leachs	1	a		
1541	Leachs				
1556	Leachs	1	a		
1704	Leachs	1	a		
1710		1	a		
1711	Leachs	2	a		Pelphinus type porpoise 8
1712	Cook's Pet	1	a		
1719	Leachs	1	a		
1730	Leachs				
1735		1	a		
1736	shear-pet	1	a		30± Stenella
1737	Leachs	2	a		



Ship Direction

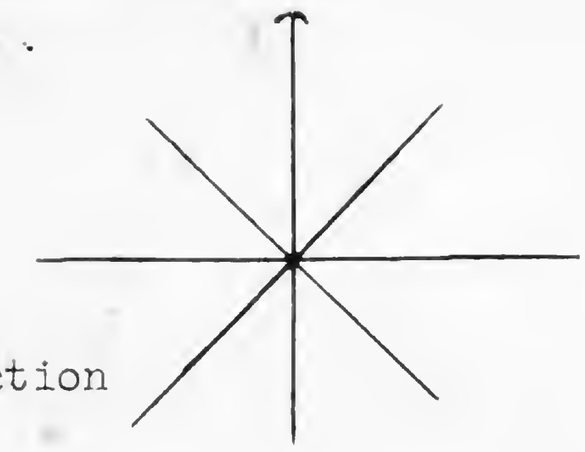
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal

Date 14 March 67
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
2230					begin
2245	R. Phalarope	4	a		calling Rain
2251	R. Phalarope	2	a		" "
2315	WRSP	1	a		
2319	WRSP	1	a		
2345	WRSP	1	a		
2400					STOP



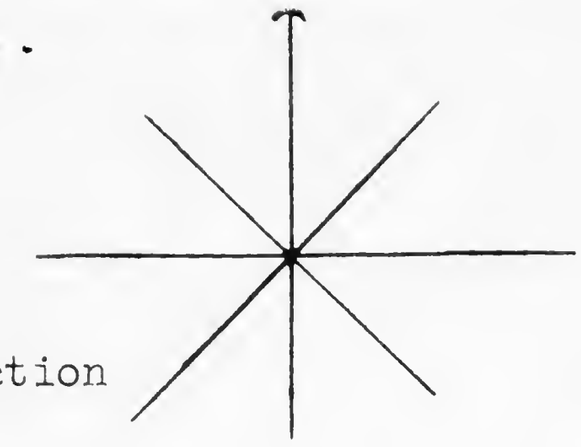
Ship Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 15 March 67
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0700	boobin				
0718	Leachs				
0722	Leach's	1	a		
0725	Pterodroma sp	1	a		
0728		1	a		large or small that is the question
					porpoise Delphinus 15-20
0812	Leachs	1	a		
0815	Leachs	1	a		
0819	R. Phalarope	1	a		
0836	Leachs	1	a		
0842	Leachs	1	a		
0902	Leachs	1	a		
0903	R. Phalarope	1	a		
0905	R. Phal.	2	a		
0914	R. Phal.	1	a		
0931	kermadec	1	a		light
1024	Leach's	1	a		
1038	Leach's	1	a		
1044	Leach's	1	a		
1050		1	a		
1100	~~Stop~~				20± Delphinus
1530	Stop				begin
1540					
1550					Delphinus 60±10
					whale 3 10' no visible dorsal fin small blow 1½' straight
					color brownish grey observed within 20 yard
1620	RTB				
1814	Leachs	1	a		
1830	R. Phalar.	2	a		SAD overship callins
		2	a		



Ship
Direction

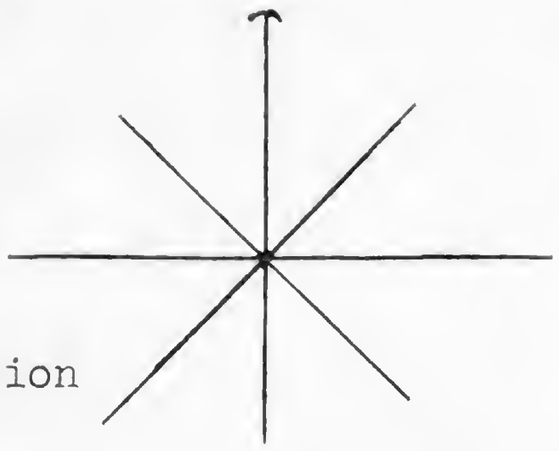
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 15 March
Pg.# 1

Nocturnal

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
2130					begin
2145	R. Phalarope	3	c		calling
2220	Shear Pet	1	o		large white below + underwing FFP?
2310	Sooty Tern	1	a		Imm
2315	shear Pet	1	a		all dark with white belly ~~tail~~ ~~coverts~~?
2330	Sooty Tern	1	a		Ad
2335	R. Phalarope	2	c		calling
2350	Sooty Tern	1	a		Ad

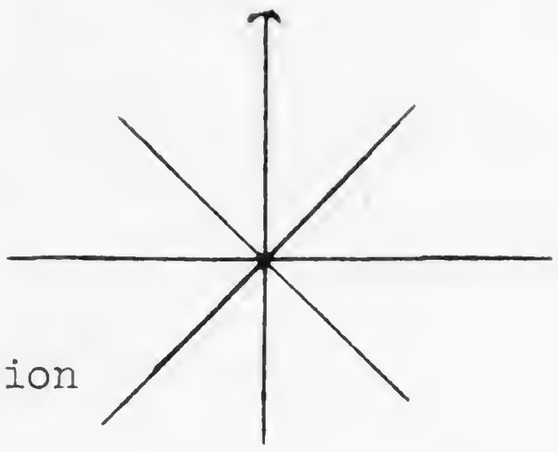


SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 16 March
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0638	sunrise				
0700	R. Phalarop	1	a		calling 1 L O
0758	WRSP				
0809	R. Phalarope	1	a		1 L O
0811	R. Phalarope	1	a		1 L O
0850	Kermadec				
0857	R. Phalarope	1	a		light
0903	WRSP	1	a		
1000					stop
1132	Puffinus sp	1	a		Wedgetail or Pink foot
~~1138~~					
1345					go
1350	R. Phalarope	1	a		
1357	Leach's	1	a		
1412	Cook's	1	a		
1414	WRSP	1	a		
1423	R. Phalarope	1	a		
1428	Wth. SP	1	a		
1429	Cook's	1	a		
TF 1435	Sooty Terns	1	a		
1440	Pterodroma	15	a		
1444	R. Phalarope	1	a		JFP?
1445	Leach's	2	a		
1450	JFP	2	a		
1451	W. ThSP	1	a		flashy white patches
1452	Wedgetail	1	a		
1453	Leachs	1	a		light
1455	Leachs	2	a		
1503	Leachs	2	a		
1506	WRSP	2	a		
1516	Leach's	1	a		
1534	WRSP	1	a		
1540	WRSP	2	a		



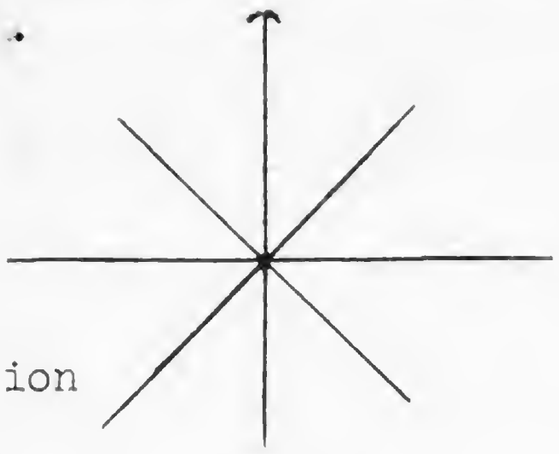
Ship
Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 16 March
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
TF	1620	Sooty Tern	10	a		Ad
	1730	RTTB	1	a		calling, imm
		Par. Jaeger	1	a		chasing, Ad dark
	1940	R Phalarope	1	a		
	1825	JFr	1	a		
	1829	WRSp	1	a		
	1841					Sunset



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 17 March
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0700					begin
	0710	Leach's	1	a		
C	0715	Wedgetails	2	ad		1 coll light ♂
	0720	Leachs				
	0725	Wedgetail	1	a		
	0727	WRSP	1	ad		light
	0735	WRSP	1	a		
	0737	Wedgetail	1	a		
	0744	WRSP	1	ad		light
	0746	Wedgetail	2	a		
	0751	Wedgetail	1	ad		dark
	0759	Wedgetail	2	ad		dark - light
	0806	WRSP	2	W		lights
	0812	Kermadec	1	a		
	0813	WRSP	1	a		light
	0815	R. Phalaropc	1	a		
	0820	Wedgetail	1	a		callery
	0822	Wedgetail	1	a		light on H2O
	0827	WRSP	1	a		light
FF	0830	Sooty Tern	2	ad		
		Wedgetail	100±10	a		imm 1 coll ♂
			120±10	a		85% light = 102 ± 10
	0840	R. Phalarope	1	a		
	0845	WRSP	2	a		
	0906	Leachs	1	a		
	0910	Wedgetail	1	a		
	0918	BB	1	a		intermediate
	0922	Leach's	1	a		SAd
ff	0924	Sooty Tern	4	a		Ad
	0925	Wedgetail	11	Nw		Ad
	0929	Sooty Tern	1	a		light
	0930	WRSP	1	a		imm

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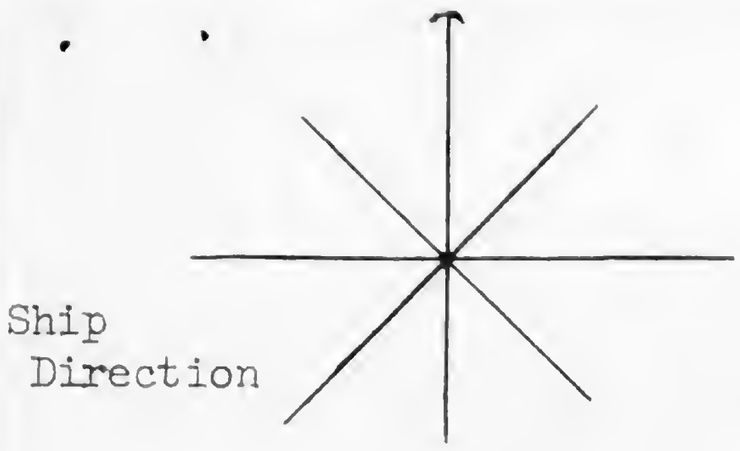

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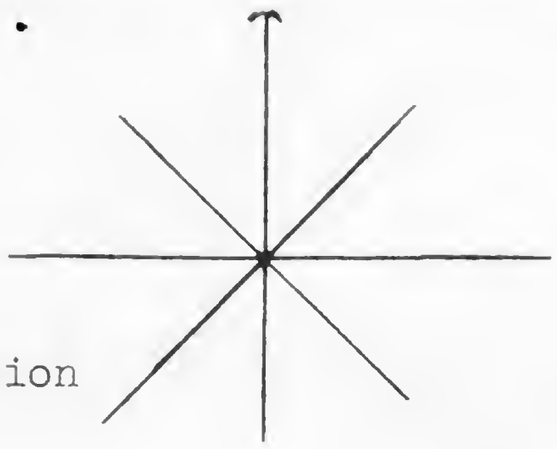
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date Nov 17
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0934	JFP	1	a		
	0935	WRSP	1	a		
F	0940	Wedgtail	45	a		40 light 5 dark on H2O
F/=	0955	sooty Tern	40	a		
		wedgetail	10	a		
	1010	wedgetail	1	a		
	1015	Sooty Tern	3	a		light
	1016	Wedgetail	1	a		Ad
	1020	Wedgetail	1	a		light
	1021	Leachs	2	a		dark
F	1025	Leachs	5	a		HV
	1028	Leachs	2	a		
	1030	DRP	1	a		
	1036	wedgetail	2	a		Stop
	1135	RTB	1	a		light + dark
	1320	RTB				90
	1329	Wedgetail	1	a		light
F	1345	Wedgetail	9	a		on H2O
	1350	Leach's	1	a		
F-F	1355	Sooty Tern	35	a		
		Wedgetail	10	a		
	1418	Par. Jaeger	1	a		immature
	1419	Wedgetail	2	a		light
	1420	Leachs	1	a		
	1430	Leach's	1	a		
	1437	Wedgetails	1	a		light
	1458	wedgetail	2	a		"
	1502	DRP	1	a		
	1505	wedgetail	1	a		light
FF	1525	Sooty Tern	37	a		
		Wedgetail	2	a		



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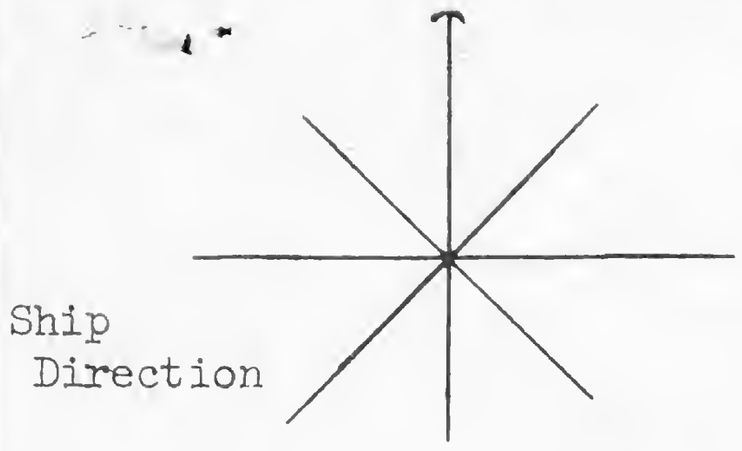
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 17 March
Pg.# 3

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1532	wedgetail	1	a		light ~
	1535	Wedgetail	1	a		light ~
		~~Leeward Is~~ Tahiti	1	a		"
	1538	Leachs	3	a		
FF	1545	Sooty Tern	7	a		4 mm
		Wedgetail	6	a		1 Juv
		JFP	1	a		
		Tahiti	1	a		
	1550	DRP	1	a		
	1555	Leachs	3	a		
	1615	DRP	1			
	1620	JFP	1			
	1622	Leach	1			
	1626	Leach	2			
	1630	Leach	2			
	1820					
	1823	Leachs	1			Shark
FF	1825	Wedgetail	10	a		3 dk
		Sooty Tern	1	a		
	1827	Leachs	1			



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DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 18 March
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0730					begin
	0754	BFB	1	e		Ad.
	0756	RFB	1	e		imm
	0759	R. Phalarope	1	e		
	0801	Leach's	1	e		
	0802	RTTB	4	e		
	0810	RTTB	1	e		Add more: ship calling
	0820	Leach's	1	e		joined others
	0911	Leachs	1	a		
	0928	Leachs	1	a		
	0930	Leachs	1	a		
	0933	Leachs	1	a		
	0946	Leachs	2	a		
	0940	Leachs	1	e		
	0948	Leachs	1	a		
	0958	~~BFB~~ Red Bill	1	a		
F	1015	Leachs	6	e		~~imm~~ S. Ad
	1048	R. Phalar.	3	a		4/2 d
	1100			e		Stop
	1145	RTTB	1	a		
	1250	Leachs	1	a		
	1302	Leachs	3	e		
	1330					go
F	1335	Leachs	11	a		blo
F	1345	Leachs	7			
		~~Arctic Tern~~	1	e		
	1350	Leachs	1	a		wing coverts browner, slightly smaller
	1352			a		
						Loggerhead
	1354	Leachs	4	a		
	1358	Leachs	4	e		
	1400	Leachs	4	e		

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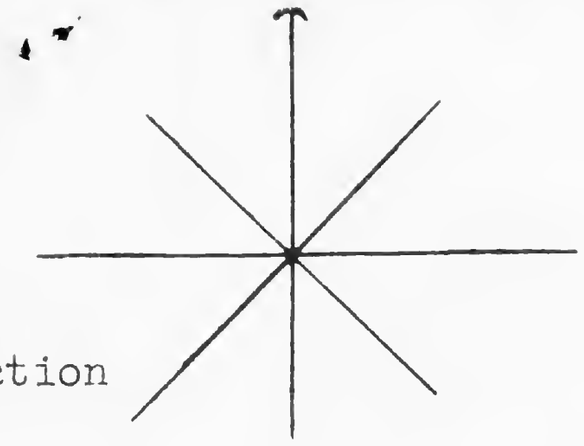

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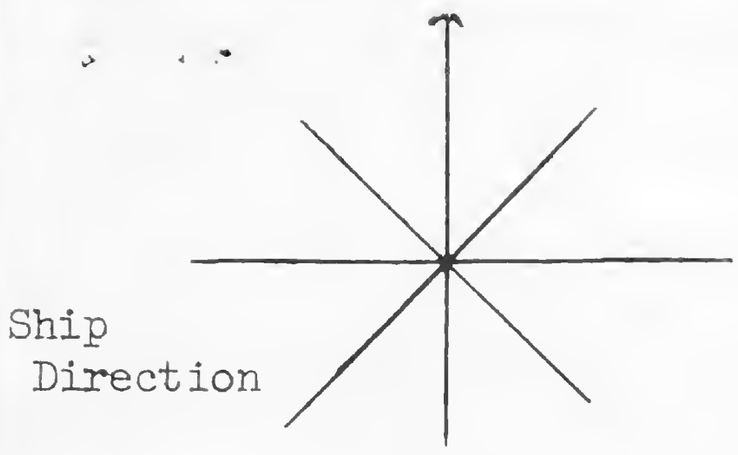
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 18 March
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1410	Leachs	1	e		
	1415	Townsend	2	W		
F	1419	Leachs	5	e		
	1422	Leachs	1	e		
	1615	RTTP	1	e		S. NC
	1711	Leachs	1	e		
	1720	Leach's	2	e		
	1725	Townsend	1	a		
	1730	Leach's	1	e		
	1744	Leachs	1	e		
	1746	Leachs	1	e		
		WRSP	1	a		
	1758	Leachs	1	e		
	1800	Townsend	1	e		
	1815	Leachs	1	e		
	1820	Leachs	1	a		
	1825	Leach's	1	e		
	1832	Leachi	1	e		
		Least	1	a		
	1836	Least	1	a		
	1840					Sunset



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DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 19 March
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0730					begin
	0731	BFB	1	a		5 NM
	0753	WRSP	1	e		
	0803	WR&P	1	a		
	0805	Leachs	1	e		
	0806	R. Phalarope	1	e		
	0825	WRSP	1	e		
	0836					1 Whale jumping out of H2O 3 times each time landing on its back
✱	0832	Leachs	1	e		dark
FF	0845	SootyTern	10			Ad
		Townsend	25			
		RTTB	1			
	0908	WRSP	1	e		
	0909	R. Phalarope	1	a		
	0925	R. Phalarope	2	a		
	0938	Townsend	1	a		
	0940	WRSP	1	a		
	0943	Townsend	2	a		
	0945	SootyTern	2	a		H2O
	0946	Leachs	2	E		Ad
	1000	Leachs	2	a		1 dark
	1002	RFB	1	a		Ad light
	1003	Leachs	1	a		
FF	1006	SootyTern	10	a		
		Townsend	20	a		
		Leachs	1	a		
	1030	Leachs	2	a		
	1100	Leachs	2	a		
	1112	Leachs	2	e		
	1115	Leachs	2	a		
	1116	Townsend	1	e		

Whale 25-35' black above pink below short pectoral flippers baleen whale

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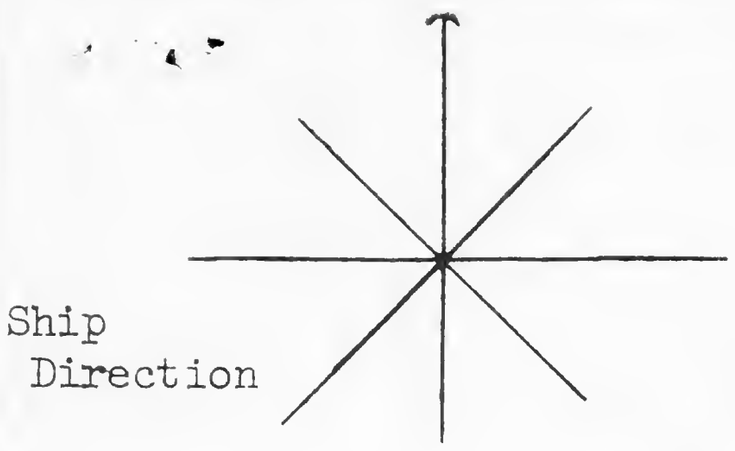
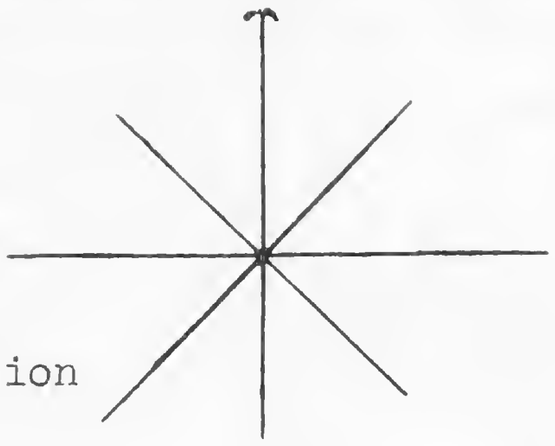


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 19 March
Pg.# 2

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1120	Leachs	2	a		
1130	Pom Jaeger	1	a		1mm
1145	RFD				Adult
1200	Leachs	2	a		
1215	Townsend	1	a		
1230	Leach's	1	a		
1245					Stop



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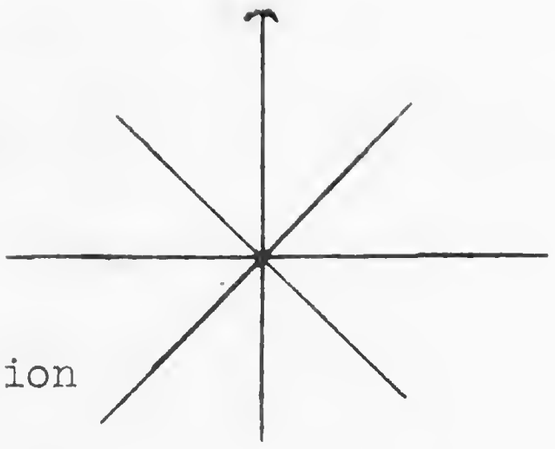
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 20 March
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700	—				begin
0718	Townsend	3	e		
0727	BFB	2	N		
0808	Townsend	2	a		
0816	Leach's	1	a		dark
0826	Townsend	1	a		
0831	Townsend	2	N		
0842	Townsend	1	N		
0846	RFB	2	W		light
0858	Townsend	2	NW		
0900	" "	1	a		
N.O. 1002	Towsend	1	N		
1004	RFB	1	W		
1006	RFB	1	W		Ad light
1008	Towsend	2	a		
1010	RFB	1	W		Ad light
1022	Townsend	1			
1023					Balleen whale 45-50'
1025	Townsend	1	a		
1028	Townsend	1	a		
1030	RFB	1	a		Ad light
1036	Townsend	1	a		
1048	Townsend	1	a		
1055	Leach's	1	a		
1056	Townsend	1	a		
		2	a		
1100					STOP
1600					go
1620	Townsend	1	W		
1623	Townsend	1	W		
1626	Townsend	1	a		
1627	WRSP	1	a		
1639	Townsend	4	a		



Ship
Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 21 March 67
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0800					begin
0801	Townsend	4	N		
0807	Leach's	1	a		
0809	Townsend	4	N		
0812	Townsend	4	a		H_2O
0825	Townsend	4	e		
0842	R. Phalarope	1	a		
0905	Leachs	1	a		
0906	Townsend	1	N		
0910	Townsend	2	N		
0917	R. Phalarope	1	a		
0926	Townsend	2	N		
0928	Townsend	2	N		
0930	Townsend	4	N		
0944	Leachs	1	a		

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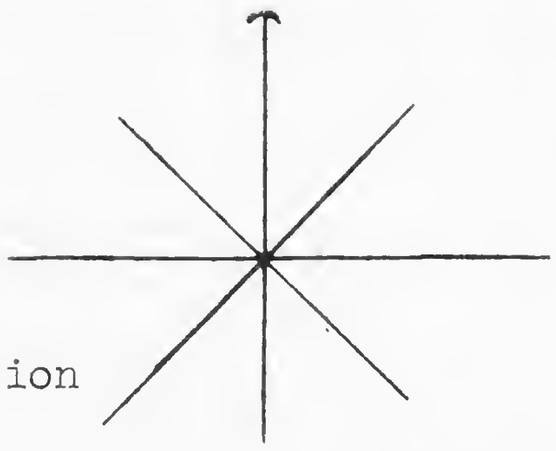
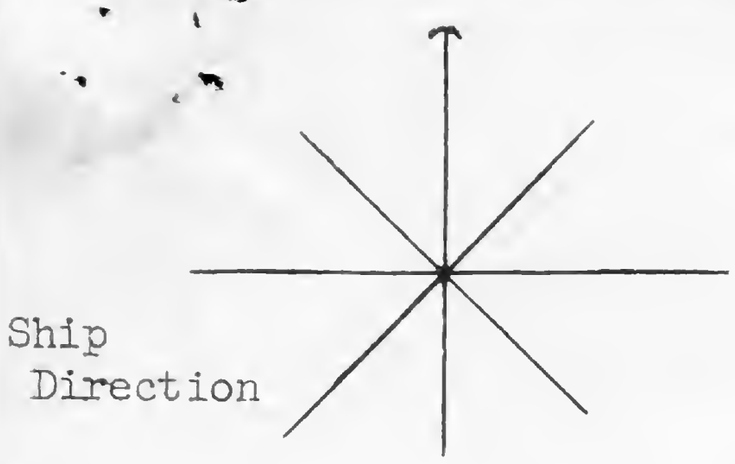


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 22 March 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					begin
0715	R. Phaeton	1	e		
0753	Cooks	1	a		
0755	Mag. Frigate	1	a		add 0
0800					
0907	Cooks	1	a		2 Green Turtles ~~Counting~~ #1
0900					
1500					Stop
					So
1501	Leachs	1	a		
1514	Leachs	1	a		
1522	Leachs	1	a		
1525	Leachs	1	a		
1531	Leachs	1	a		
1550	M. Frigate	1	a		add 1
1552	Leachs	2	a		
1605	Leachs	2	a		



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 8 Feb 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
074					sunrise
0743	Leach Ph.	2	♀		on H_2O
0744	Manx Shear	2	S		
0745	BL. Kitty	4	♀		on H_2O imm
0746	BFA	1	♀		following
	Herring Gull	7	♂		"
SFL	Western	3	♂♂		"
	Calif.	9			
0747	BL. Kitty	2	♀		imm
0748	Herring	1	♀		
	Western	2	♀♂		
0749	Sabines	2	♀		imm
0750	Kittywake	1	♀		imm
0752	Gull	1	NW		
0755	Western Gull	1	NW		2 y. old
0756	Kittywake	1	♀		imm
0758	Shear Pet	1	SE		probably Manx
0759	Kittywake	1	NW		imm
0800	West. Gull	1	NW		
0804	West Gull	1	♀		Ad
0805	Calif. Gull	1	♀		Ad
0807	Kittywake	1	NW		imm
0809	Whales				2 about 25'
FF 0820	Kittywake	4	♀		
	Shear Pet	3	♀		school of fish, over age flash + sum water churning
0822	Pom. Jaeger	1	NW		Ad light
	Kittywake	1	NW		imm } heading toward FF
0823	H. C. Gull				
0827	Kittywake	1	♀		imm
	West Gull	2	NW		imm
0830	Gull, Calif	1	NW		2 year
0835	Kittywake	2	NW		Ad
		2	NW		imm

Kelp showing

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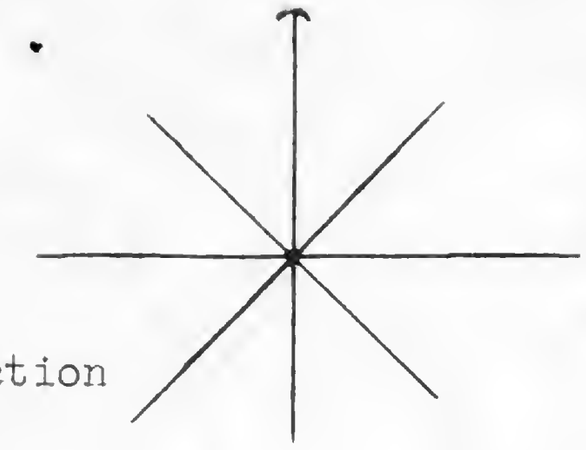
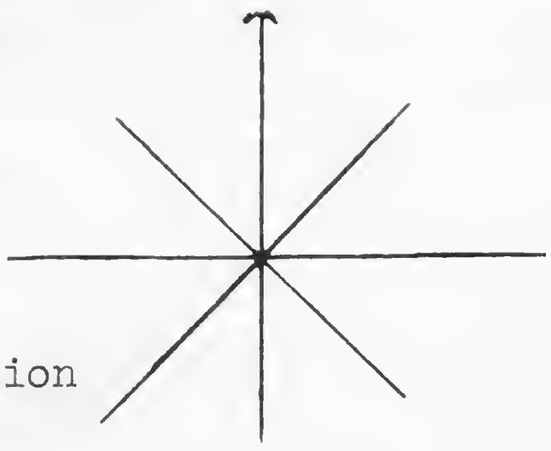


SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 8 Feb
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0845	Gull sp	1	a		1 imm
	0850	kittywake	1	a		1 imm
	0851	~~Leach~~ Phar.	1	a		
	0852	whale				1 Lalleen - spout 15' and straight
	0854	West. Gull	1	a		Ad
	0908	kittywake	2	N		imm
	0915	"	1	a		1 imm
	0918	Herring Gull	2	a		1 imm
		kittywake	2	N		
	0927	Shear Pet	2	N		
		kittywake	1	N		1 imm
SF	0930	kittywake	6	aa		4 Ad 2 imm } on H2O
		Manx Shear	1	a		
	0937	Herr. Gull	1	a		on H_2O
		Pom. Jaeg.	1	a		imm chasing Gulls
	0942	West. Gull	1	a		2 year
	0944	xantus Murrelets	4	5E		black above white below, white underwing scaup size
	0945	Kittywake	1			
	0948	Pom. Jaeg.	1	NW		Ad light
	1006	Herr. Gulls	4	a		Ad on H_2O
	1009	xantus Murrelets	2	SE		same as above
	1020	kittywake	3	a		imm
	1027	Pharelopes sp	3	a		
	1047	kittywake	1	a		imm
	1120	kittywake	1	a		imm
	1130					Stop for drill + lower net
SF-L	1146	Herring Gulls	14	a		11 Ad 3 imm } ship followers feeding
		Western Gull	1	a		Ad
	1146	kittywake	1	a		imm
	1230					under way
	1235	Kitty wake	1	SW		imm
	1318	Kittywake	1	a		imm
	1320	West. Gull	1	a		Ad
	1330	Whale				1 Large baleen spout 20' straight



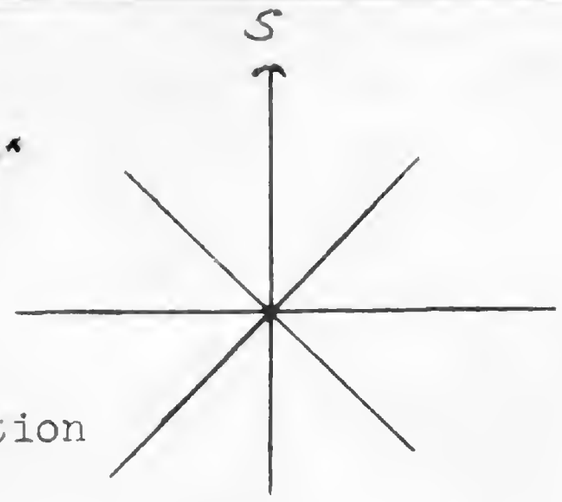
Ship
Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date Feb 8 1967
Pg.# 3

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1344	kittywake	1	♀		1 imm
	West. Gull	3	♀		Ad
1345					Sealion ~~Shark~~ about 15' ~~white grey color~~
1354					Shark small about 5' dark blackish, under log
1355	Herr. Gull	1	♀		2 year
	kittywake	1	♀		imm
1547	kittywake	1	E		imm
1553					Sealion
1602					2 Ocean Sunfish by kelp
1604					3 sealions around kelp
1615	Calif. Gull	1	♀		Ad
1641	Pom. Jaeger	1	♀		Ad Light
1730					whale baleen spout 15'
1745					close observations



OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date Feb. 9 1967
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
TF	0828	WRSP	5	W		sitting on H_2O, then flew W
	0829	WRSP	1	S		
	0830	WRSP	1	♀		
	0831	WRSP	1	♀		
	0832	WRSP	1	♀		
	0834	WRSP	1	♀		
	0848	WRSP	3	S		
	0857	WRSP	1	S		
	0927	WRSP	4	♀		
	0929	WRSP	3	♀		
	0930	WRSP	2	♀		
	0934	Ashy St. Pet	2	♀		smaller, flight steadier, tail less forked and shorter
	0954	WRSP	2	♀		
TF	1002	WRSP	7	♀		on H_2O
	1015	WRSP	2	♀		
	1021	WRSP	2	♀		
F	1025	WRSP	9	♀		Sitting on H_2O
	1042	DRSP	1	♀		Leachs or Ashy
	1044	WRSP	1	♀		
TF	1045	WRSP	17	♀		on H_2O
	1055	WRSP	1	♀		
	1058	WRSP	2	♀		
	1106					Shark 5' grey
	1112	WRSP	1	♀		
	1114	WRSP	1	♀		
	1150	WRSP	1	♀		
F	1206	WRSP	18	♀		on H_2O
	1213	WRSP	1	♀		
F	1218	WRSP	16			on H_2O
		Leach's St. Pet	1			" "
	1229	WRSP	4	♀		
C	1302	WRSP	6	♀		
	1400					close observ
	1730					begin watch
	1829	WRSP	4	♀		
	1834					Sunset close observ.

OK

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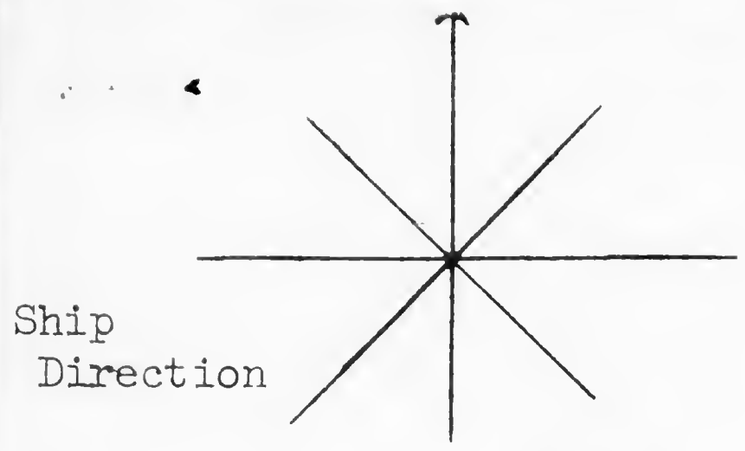

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal

OBSERVERS:

Date 9 Feb
Pg.#

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
2200					begin watch
2223	WRSP	1			
2301	Common Shear	1			auricularis race
2333	WRSP	1			

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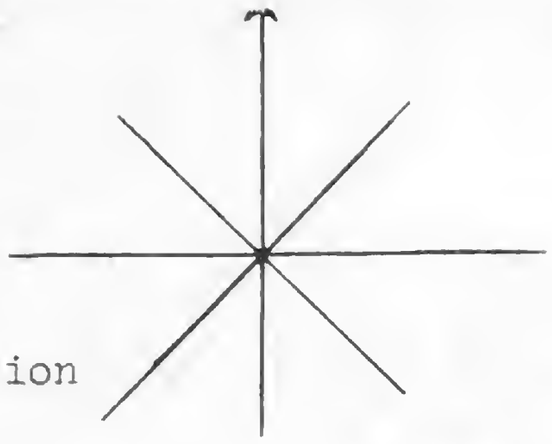


Ship Direction

OBSERVERS:

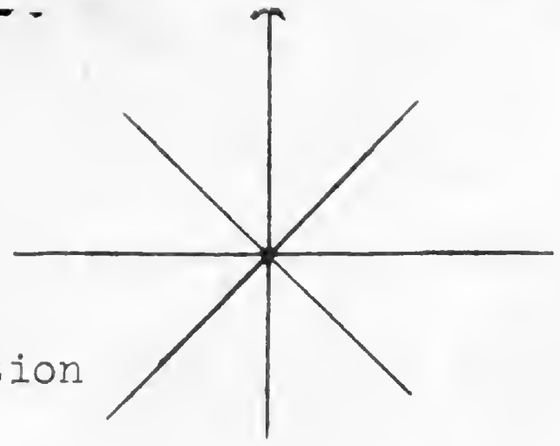
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 10 Feb 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0715					sunrise ~~beg~~ in observ.
0747	M. Frigat.	3	♀		Ad ♀ chasing flying fish
0808	Cook's Pet ~~Shear-Pet~~	1	♀		P. Kennerani size, flew like a shorebird
0857	WRSP	1	♀		
1131	WRSP	1	♀		
1227	WRSP	1	♀		flying along edge of two H_2O masses, southern one lighter than the other a distinct line at convergence, ran SSE – NNW from Horizon to horizon
1236	WRSP	1	♀		
1237	Cooke's Pet	2	♀		flew of H_2O Black W" quite distinct, light head, also white flash on dorsal primaries like Pt. neglecta. Ventral wing surface white. Flight unlike any Pterodroma, shearbill like, giving the appearance of large Phaeton. Wings bowed much more than any Pterodroma. Flight consists of a few downward emphised flaps and a sailing with occassional banking in the sail.
1246	WRSP	2	♀		
1259	Leach's St Pet	1	♀		
1308	Leach's St Pet	1	♀		
1316	Leach's St. Pet	1	♀		
1325	Leach's St. Pet	1	♀		
1341	Leach's St. Pet	2	♀		following
1348	Turtle	1			Green or Loggerhead
1413					school of 40 fish
1444	Leach's St. Pet	1	♀		
1560					stop watch
1700					Resume watch
1835					Sunset

12 – 16 inches Jumping

Ship Direction



OBSERVERS:

Bulmer

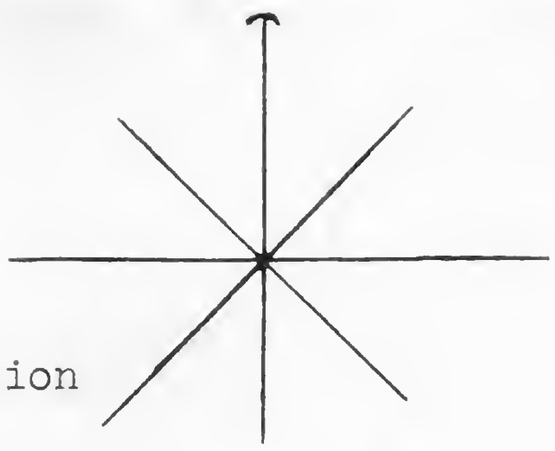
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 11 Feb 67

Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR. BAND NO.	REMARKS
	0702				sunrise
	0719				1 Swordfish Marlin basking - dorsal fin exposed
	0720	P.p. auricularis	1	SW	
	0724	RFB	3	NW	Ad
	0726	P.p. auricularis	2	S	
	0737	P.p. auricularis	1		
TF	0740	P.p. auricularis	5	SW	
	0742	P.p. auricularis	3	Q	on H_2O
	0743	RFD	1	Q	on H_2O Ad
	0748				Stenella sp 15 ± 2
	0804	RBTB	1	Q	
	0808	P.p. auricularis	3	Q	on H_2O then flew S
	0816	" "	1	Q	
	0817	DRSP	2	Q	
	~~0818~~				
	0825	P. pauricalis	2	Q	
	0827	DRSP	1	Q	
	0831	P.p. aur.	2	SE	
	0832	Pp aur	1		
	0834				Whale 35' fin 6" very small
	0836	Pp aur	3	Q	on H_2O
	0837	RFB	1	Q	Ad
	0838				Whales 6 ± 2 spout 8' mushroom Type Humpback?
	0839	Pp aur.	3	Q	
	0844	Leach's Storm Pet	2	Q	on H_2O
	0848	P.p. aur	1	Q	
	0849	St Pet Sp	2	Q	
	0856	Leach's Storm Pet	1	Q	
FF	0906	P.p. aur	70 ± 10	Q	Flying in ~~Tight~~ unescense low over the H_2O and diving from flock - looks like a flock of shorebirds wheeling and turning together
		RFB	3		
	0908	P.p. aur	30 ± 5		scattered not a flock
		St. Pet sp	10 ± 4		" " " "
	0928	Leach's Storm Pet	1	Q	on H_2O
	0937	RFB	1	Q	
	0946	P.p. aur	1	Q	
	0953	P.p. aur	1	Q	on H_2O limped away wounded "damn it"

159 OK



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 11 Feb 67
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
SF	1000	P.p. aur	30±5	@		
	1014	" "	1	@		
	1015	" "	1	@		
	1022	" "	1	@		
	1040	" "	1	@		
	1045	" "	1	@		
	1059	" "	1	@		
	1100					Shark Black 8'
TF	1106	" "	6	@		on H_2O
TF	1117	" "	6	@		
		RFB	1	@		Ad light
	1120	RFB	1	@		Imm
	1122	RFB	1	@		Ad light
	1123	P.p. aur	3	@		
	1125	RFB	1	@		Ad light
TF	1130	P.p. aur	6	@		on H_2O
	1135	P.p. aur	1	@		
	1136	RFB	4	@		Ad light
	1141	P.p. aur	2	@		
	1200	P.p. aur	1	@		
	1227	" "	1	@		
	1229	" "	1	@		
	1230	Least St. Pet	1	@		rounded tail - but like flight leach's large
	1231	Leach's St. Pet		@		
	1238	Least St. Pet	1	@		
TF	1243	St. Pet Spec.	2	@		Leach's size on H_2O
		Least St. Pet	7	@		
	1245	P.p. aur	1	@		
TF	1252	P.p. aur	1	@		
	1254	" "	6	@		on H_2O
	1258	" "	1	@		
	1310	" "	1	@		
	1318	" "	1	@		
	1323	RFB	1	@		
			1	SW		Ad light
	1330					6 or 7 Globicephala
	1336	Leach's St. Pet	3	@		

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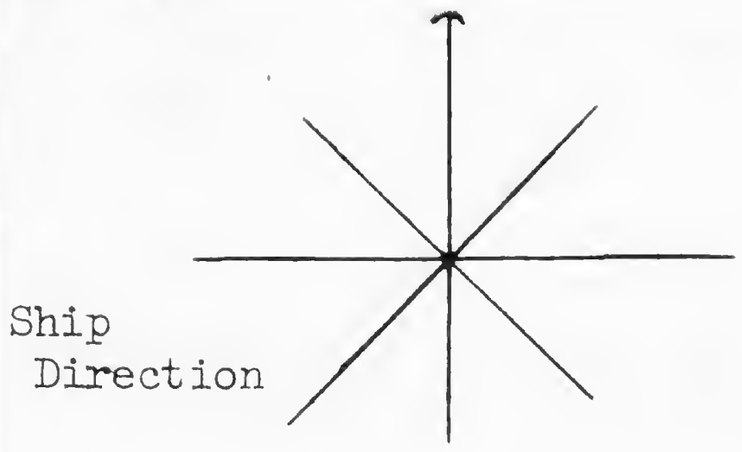

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 11 Feb 67
Pg.# 3

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
TF	1344	RFB	6	NW		1♀
	1346	RFB	1	♀		Ad 1-Sept
	1350	RFB	1	NW		Ad 1 Sept
	1354	WRSP	1	♀		
	~~1400~~					
	1420	RBTB	1	♀		close ~~observ~~. observ.
	1500	P. aur	1	♀		
	1531	P. aur	1	W		
	1551	Leach's St. Pet	1	♀		
TF	1602	RFB	21	N		Ad light
	1606	RFB	1	N		Ad light
	1613	P. aur	1	♀		
	1614	Leach's St. Pet	1	♀		
	1615	P. aur	1	♀		
		Leach's St. Pet		♀		
	1620	Leach's St. Pet.	1	♀		
	1700	P. aur	4	N		
	1703	" "	1	N		

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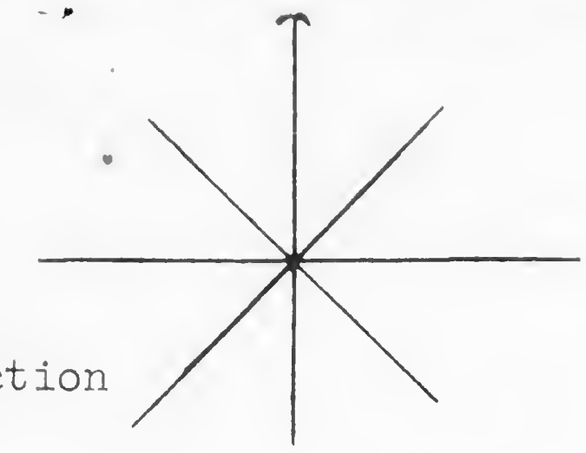


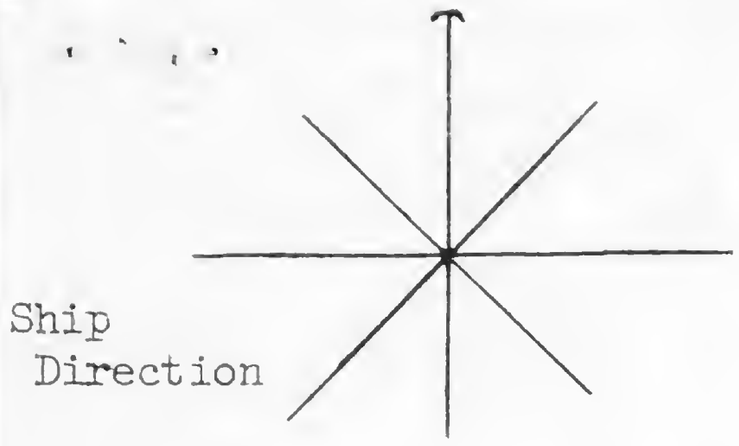
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal

Date 11 Feb
Pg.#

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
2000					
2020	WRSP	1			Begin Observ.
2100	WRSP	1			
2145	WRSP	1			
2300	WRSP	1			
2359	WRSP	1			

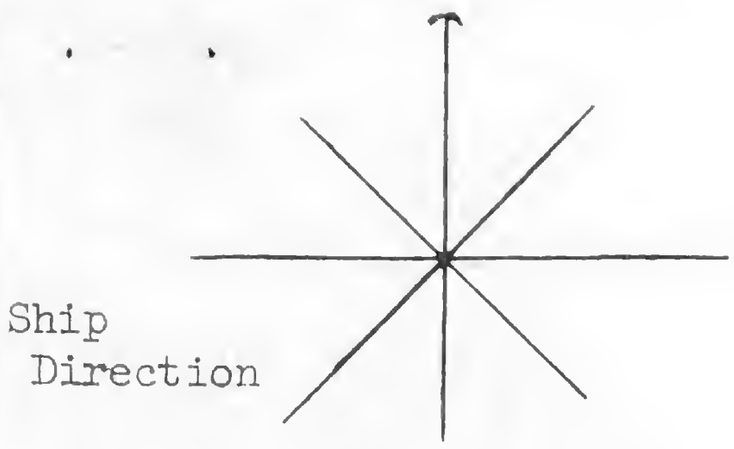


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 12 Feb 66
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0709	RTTB	1	@		over ship & Ad
	0718	RFB	2	N		Ad light
	0723	WRSP	1	@		
	0725	WRSP	1	@		
	0728	Least St. Pet	1	@		
	0730	WRSP	1	@		
	0750	Leach's	2	@		
	0754	Leach's	1	@		
	0755	Leach's	2	@		
	0803	Leach's	1	@		
	0809	Leach's	1	@		
	0817	Leach's	3	@		
	0821	Townsend	1	@		
	0824	Leach's	1	@		
	0826	Leach's	1	@		
ST	0829	Leach's	6			on H_2O
		Townsend	1			" "
	0840	Leach's	1	@		
	0842	Leachs	4	@		on H_2O
	0846	Leach's	1	@		
	0850	RTTB	2	@		S. Ad over ship
	0908	Leach's	1	@		
	0930	Leachs	4	@		on H_2O
	0940	Leach's	3	@		on H_2O
	0946	Leach's	4	@		" "
	0952	Leach's	3	@		" "
	0954	RFB	1	N		Ad light
	1004	WRSP	1	@		
	1017	Leach's	2	@		
		WRSP	2	@		
	1025	WRSP	4	@		
	1028	WRSP	2	@		
	1035	Leach's	2	@		
	1038	Townsend	1	@		
FF	1044	Sooty Tern	15	@		feeding over school of fish - 8"; jumping
		Townsend	20			



OBSERVERS:

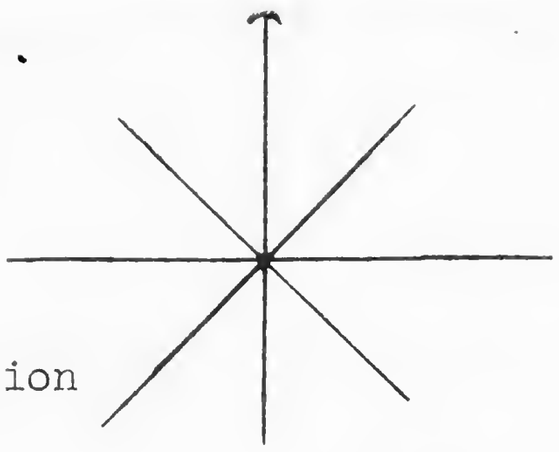
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 12 Feb 67
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
SF	1047	Leach's	4	a		2 d 2 L.
		Least	1	a		
	1052	Leach's	2	a		dark
	1058	Townsend Shear	1	a		
	1106	WRSP	1	a		
	1108	RFTB	1	a		over ship
	1116	Leach's	3	a		
	1118	BFB	1	a		Ad
		RFB	1	a		Ad light
	1122	WRSP	1	a		
	1124	RFB	1	a		Ad light
	1208	WRSP	1	a		
	1620	Frigate sp				13 - 1600 No observ.
	1621	Boobies sp	1	a		imm following
FF	1630	Sooty Tern	1	a		
		Townsend Shear	250	a		imm
		Frigate	300	a		
		~~Sooty Shear~~	12			3 Ad 9
		Pomarine Jaeger	~~3~~ 2			1 Ad light + imm
		Parasitic Jaeger	6			over small mackerel type fish with Yellow fin Tuna and about 60 porpise
		B Foot Booby	4			
		RFB	150			Ad
		BFB	25			imm
		~~St Petrel~~	9			
		WRSP	1			dark
		Kermadec				
	1716	Sooty Tern	2	F		Ad
	1720	WRSP	1	a		
SF	1724	WRSP	23	a		
	1727	~~Boobies~~	3	a		on H_2O
		Leach's		a		
	1733	WRSP	4	a		
	1735	WRSP	2	a		
	1740	Leach's	3	a		
	1741	Townsend Shear	3	a		
	1744	RTB	1	a		over ship
	1751	Leach's	2	a		
	1756	"	3	a		
	1757	Townsend Shr	2	a		

528

O.K.



Ship
Direction

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DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 12 Feb
Pg.# 3

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1800					change course
	1808	Leach's	1	a		
	1811	WRSP	3	a		
	1812	RFB	1			SAd following feeder flying fish
	1815	RFB	1	a		Ad light following " " "
SF	1822	Leach's	8	a		on H_2O
	1823	Leach's	1	a		
	1825	Towsend Shear	2	a		

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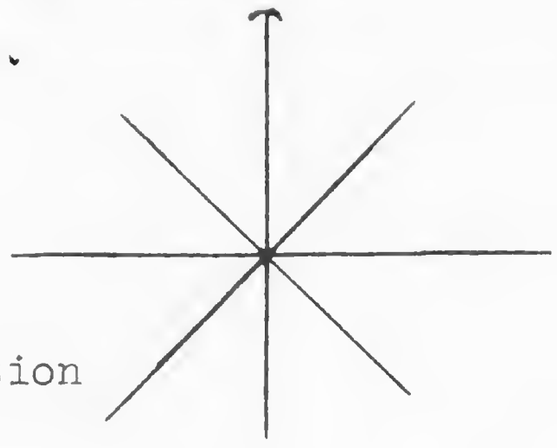

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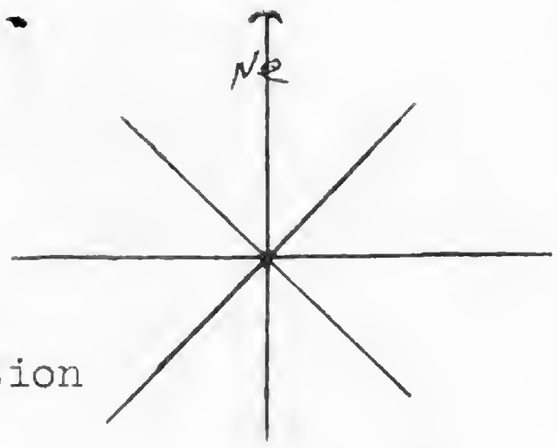
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal Drift

Date 12 Feb 69
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	2000					begin
	2012	Leachs	2			
C	2024	Leachs	4			1 flew aboard coll. & rel.
	2029	Leachs	1			
	2047	Towsend	1			
	2118	Leachs	1			
	2125	Leachs	1			
	2140	Leachs	1			
	2207	Leachs	1			
	2231	Towsend	1			
	2247	Leachs	1			
	2249	Leachs	1			
	2333	Towsend	1			
	2349	Sooty Tern	1			
	2356	Leachs	1			
	2400					Close



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AT SEA DAILY LOG - E

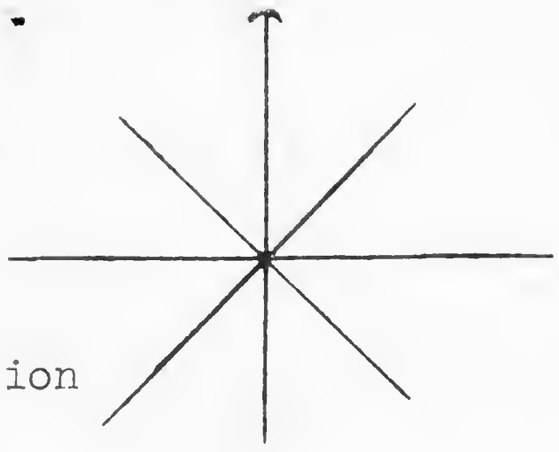
OBSERVERS:

Date 13 Feb 67
Pg.# 1

Rain Gage 1.5

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0915					begin
0919	kermadec	1	W		light
0922	WRSP	1	a		
0928	Shear. Pet	1	a		large probably P. creatopus
0944	Towsend shear	1	a		
0945	WRSP	1	a		
1020	WRSP	1	a		
1022	BB	1	a		
1047	Shearwater	1	a		S. Ad
1052	Townsend Shear	3	NW		
1055	" "		NW		
1101	" "	1	NW		
1130		1	NW		
1420					Start
1421	BFB	1	a		underway
1431	Leachs St. Pet	1	a		S. Ad.
1455	WRSP	1	a		
1510	RFB	2	NE		Ad light
1514	WRSP	1	a		
1516	Towsend	1	a		
1520	Leach's	1	a		
1522	RFB	1	E		S. Ad
1523	Leach's	3	a		on H2O
1527	RFB	3	E		Ad light
1528					reddish brown mass in H2O 40' x 5'
1536	WRSP	1	N		
1542	WRSP	1	a		
1545	Towsend S.	1	a		
1602	WRSP	1	a		
1610	Pterodroma Kermadec	1	a		Dip/Tah. Shape color + pattern except underwing all dark with 2 or 3 light
1621	WRSP	1	a		007
1630	WRSP	1	a		
SF 1702	Leach's	4	a		on H2O Ashy smaller darker flight and light underwing
	Ashy	1	a		
1712	Townsend	2	a		3 a. 1 dark Leach
1715	WRSP	1	a		
1716	Kermadec	1	a		Light

dk. brown light edged feathers



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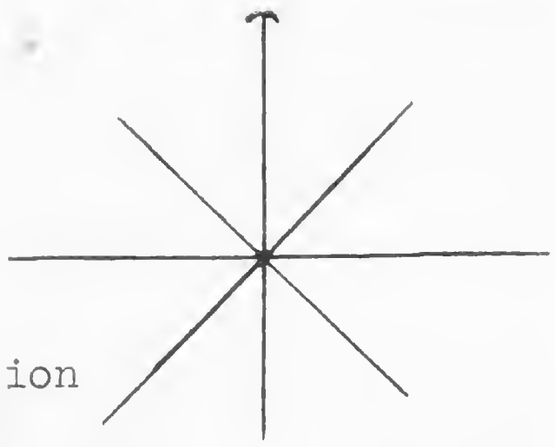
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 13 Feb 67
Pg.# 2

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1725	Leach's	1	Q		
1732	WRSP	1	Q		
1741	Leachs	2	Q		
1746	Townsend	2	N		
1747	"	1	N		
1748	"	1	N		
1749	Leach's	1	Q		
1752	Leach's	2	Q		
1757	Leachs	1	Q		
1759	Leach's	2	Q		
1819	DRSP	1	Q		Ashy?
1824	BFB	1	Q		Immm
1825					Sunset



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DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 14 Feb 67
Pg. # 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0715					begin observ
0746	N. Phalarope	1	W		
0852	RFB	1	♀		imm
0949	Leach's	1	♀		dark
1046	Townsend	2	♂		
1100					stop
1400					underway
1426	Townsend	2	N		
1535	Townsend	1	N		
1538	RFB	1	♀		imm over ship
1602	Leach's	1	♀		
	Least	1	♀		
1612	Townsend	1	♂		
1710	Sooty Tern	2	SE		Ad
1750	M. Frigate	1	♂		Ad ♂
1752	BFB	2	♀		imm
1759	RFB	2	♀		imm
1818					Sunset

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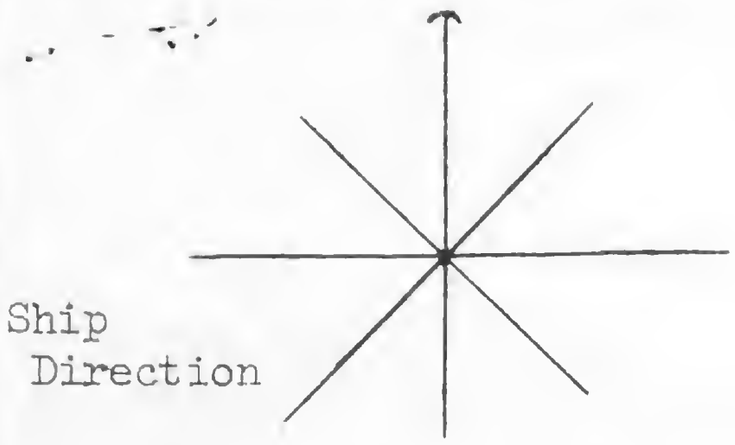

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DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R/V Jordan

Date 15 February 1967

Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					begin
0715	RFB	1	♂		on ship ~~S. Ad~~ imm
0720					underway
0727	Leach's				
0814	Townsend	1	♂		on H_2O
0830	Townsend	1	N		
		1	N		
	RFB	1	N		imm - chasing the thermometer
0838	Leach's	1	♂		
0843	RBTB	2	♀		on H_2O
0848	Townsend's	1	♂		
0852	Townsend's	2	NE		
0923	Sooty Tern	3	NW		Ad
0959	RBTB	1	♀		
1040	Sooty Tern	1	N		Ad
1045	" "	2	N		Ad
1054	BFB	1	♀		imm
1058	Sooty Tern	1	♂		
1100					ETop
1140	BB	1	♀		S. Ad
1316	Sooty Tern	4	N		Ad
FF 1354	" "	75			feeding over fish
	BFB	1			imm
1415					underway
1431	Sooty Tern	2	N		Ad
1435	Sooty Tern	3	N		Ad
	Townsend	1	N		
1444	Sooty Tern	2	SE		Ad
1445	Townsend	1	N		
1510	Sooty Tern	2	S		Ad
1511	Sooty Tern	2	S		Ad
1514	Pom Jaeger	1	S		Ad light
1527	Sooty Tern	2	S		Ad
1528					Sailfish 6' jumped
1550	RFB	2	♀		imm + S. Ad
	BB	1			over ship with mascot
1622	Sooty Tern	2	♀		S. Ad
1623	RFB	1	♀		Ad
1629	Sooty Tern	2	NE		imm joined other three on TV. antenna
1632	Sooty Tern	4	N		Ad

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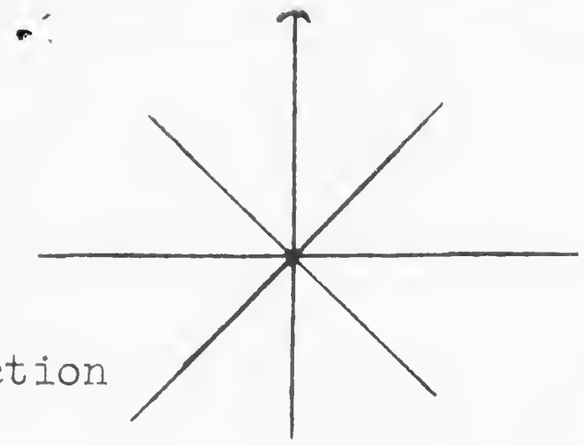

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DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 15 Feb 67
Pg.# 2

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1705	Sooty Tern	2	N		Ad
1706	Sooty Tern	3	S		Ad

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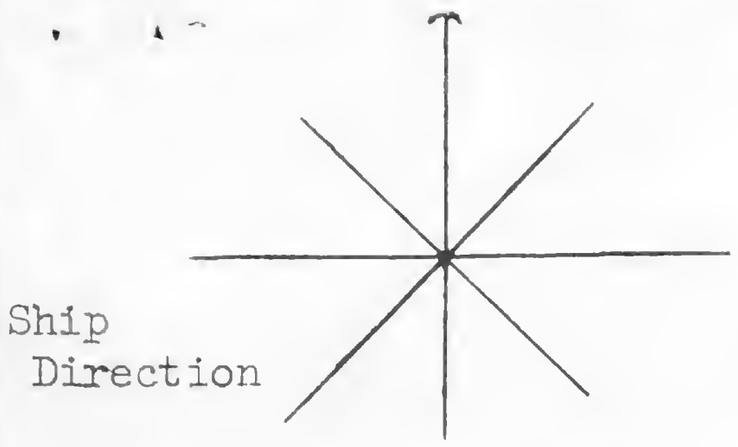

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 6 Feb 67
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0715					begin
	0720	BFB	1	@		5 Ad
	0743	BB	4	NE		4 Ad brewsteri
	0745	BB	3	NE		Ad "
	0747	RFB	1	a		imm mascott
	0751	M. Frigate	3	a		1 ♂ 1♀ 1 imm circling
	0754	Booby Sp	1	NE		
	0827	Phalaropes Sp	1	a		
	0830	Jaeger Sp	1	a		
TF	0935	Phalarope Sp	7	a		
	0937	" "	1	a		
FF	0938	Red Phalarope	5	@		on H_2O
	0942	BB	2	a		
	0943	R. Phalarope	1	SW		1 Ad 1 S. Ad
	0951	R Phal.	1	@		on H_2O
	1000	BB	1	a		"
	1002	Leach's	1	@		Ad ♂ on H_2O
	1011	Leach's	1	@		
	1023	RTB	1	@		
	1031	BB	1	SW		flying high and straight out to sea
	1038	WRSP	1	S		Ad
	1039	BB	4	@		
	1046	R. Phalar.	2	SW		2 ♂, 2 ♀ Ad
	1050	Par. Jaeger	1	@@		on H_2O near small piece of wood
	1050			SW		Ad light
	1430					stop
	1501	BB	1			Go
	1509	BB	4	NE		Ad
	1520			NE		Ad
						sperm whale 45-50'
FF	1522	Sooty Tern	7	N		Ad leaving whale after it dove
	1524	BB	1	N		Ad
	1545	BB	1	N		Ad
	1547	R. Phalarope	1	@		On H_2O
	1552	R. Phalarope	1	@		"
	1608	BB	2	E		Ad
	1610	R. Phalarope	1	@		on H_2O
	1614	R. Phalarope	4	@		on H_2O
	1616	R. Phalarope	1	@		On H_2O
	1618	R. Phalarope	1	@		on H_2O

166
53
219

69
152
221

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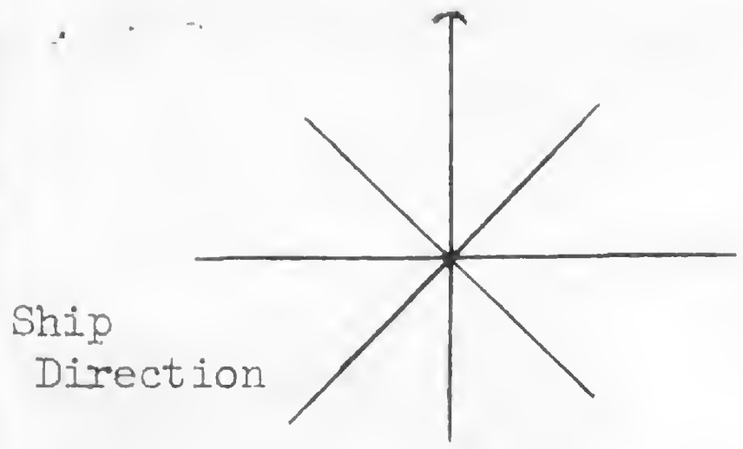

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DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date Feb 16 67
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1620					3 Manta Rays 7' wing spread
	1622	BB	2	NE		Ad
	1623	Phalarope sp	1	Q		
	1624	Phalarope Sp	1	Q		on H2O
	1625	Red Phal.	1	Q		on H2O
	1629	R Phalarope	3	Q		"
	1700	Sooty Tern	2	S		Ad
	1702	R. Phal.	1	Q		on H2O
FF	1710	Sooty Tern	35			Ad
		BB	8			Ad
		Phalarope Sp	12			
		RBTB	4			
		Townsend	1			
	1720	Pom. Jaeger	1	Q		Ad light
TF	1722	BB	5	NE		Ad
	1723	Haw Noddy	1	Q		
	1735	BB	2	NE		1 Ad 1 Sad
	1736	R. Phal.	2	Q		on H2O
	1737	R Phal	2	NE		
FF	1745	SootyTern	42	Q		
		BB	1	Q		
	1746	R. Phal	3	Q		calling
TF	1750	BB	9	NE		Ad
	1754	Least St. Pet	1	IM		
FF	1755	Sooty Tern	10			
		Townsend	2			
	1751	BB	1	Q		Ad on log
	1756	R. Phal.	2	Q		calling
	1802					Sunset

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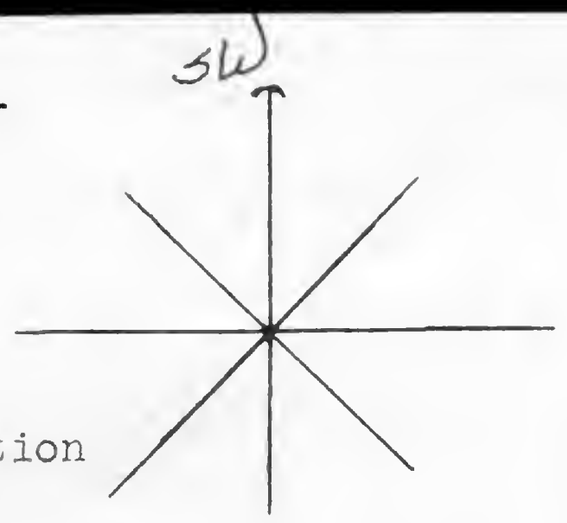

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DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 20 Feb 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					begin
0706	BFB	1	♂		S. Ad
0709	BB	1	SE		S. Ad
0720	BB	3	SW		Ad
0807	BB	1	W		Ad ♂
0814	RBTB	1	♀		on H_2O
0828	Jaeger sp	1	♀		light Par. or Pom
0830	RBTB	2	♀		
0838	BFB	1	♀		S. ad
0841	WRSP	2	♀		
0847	WRSP	1	♀		swimming ~~Lead~~ crab 1"
0902	RBTB	1	♀		
0922	RFB	2	♀		imm following
	Pom. Jaeg.	1	♀		Ad. light "
0931	RFB	1	♀		imm following
0942	WRSP	1	♀		
0947	BB	1	W		Ad
1000	Phalaropes p.	4	♀		in strong band of calm H2O 1 large coraphina 6" blue on head
1004	BB	1	W		Ad
1026	RFB	1	♀		imm following
1100	RBTB				STOP
1102	WRSP	1	♀		over ship
1115	RBTB	1	♀		
1235	RFB	1	♀		on H_2O
1415		8	♂		Co
1427	Leach's ~~Storm~~ Spd.	5	♀		on H_2O
1429	BFB	1	♀		imm
1432	BB	1	♀		Ad ♂ on log
1431	RFB	3	S		imm dark
1440	RBTB	1	♀		
1441	RFB	1	♀		imm
1508	RFB	1			imm
	WRSP	1			
1514	Wedgetail ~~[illegible]~~	1	NW		
1522	RFB	1	NW		imm
1524	WRSP	3	♂		on H_2O
1535	BFB	1	♀		imm
1600	WRSP	2	♀		

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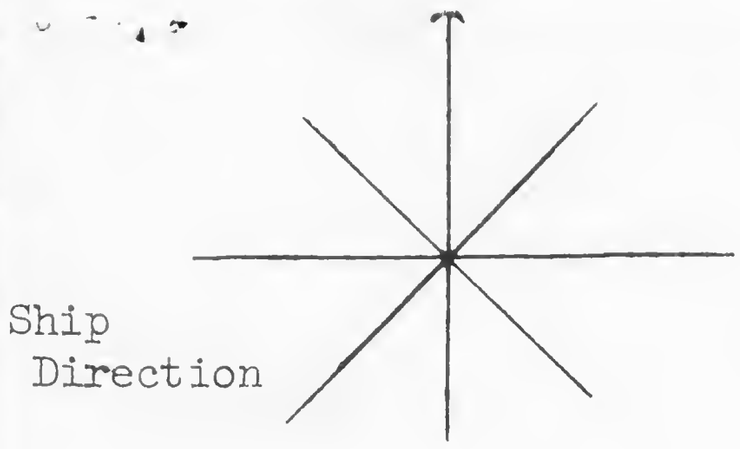

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DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 20 Feb 67
Pg.#

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1700	RFB	3	♀		1 min
1704	Townsend	1	♀		
1705					Turtle
1707	RBTB	1	♀		
1718	WRSP	1	♀		
1725	booby sp	1	♀		
1738	Townsend	1	♀		
1745	Wedgetail	1	♂		light
1755					sunset

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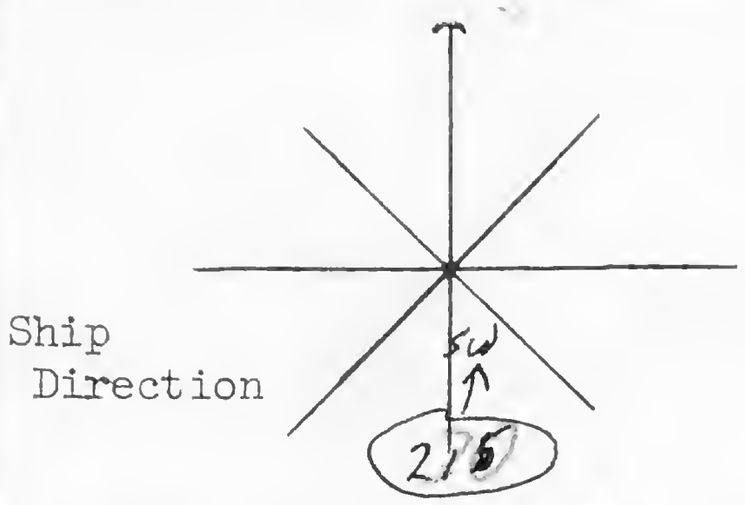

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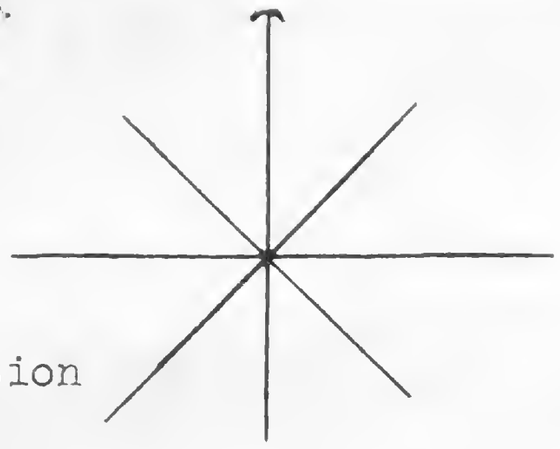
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 21 Feb 67
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0630					begin
0655	RFB	1	NE		imm
0657	Wedgetail	1	♀		light
0700	R. Phalarope	1	W		
0754	WRSP	1	♀		
0841	WRSP	1	♀		
0942	WRSP	1	♀		
0945	RFB	1	♀		imm
1600					STop
1310					GO
1539	WRSP	3	♀		
1552	WRSP	4	♀		on H2O
1607	RBTB	1	♀		
1610					School of clupeids 6" about 40
1616	B Foot Booby	1	NW		
1625	R. Phalarope	2	♀		on H2O calling
1707	RBTB	1	♀		over ship
1711	Booby sp.	1	?		
1735	Wedgetail	1	E		light
	Townsend	1	E		} together
1744	Wedgetail	1	♀		light
1804					Sunset



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DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 22 Feb 67
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0700					begin
	0725	Pom. Jaeg	1	W	light AD	Jaeger dive into the flock of storm petrels and
		WRSP	4	W		chased and caught one. It ate the bird on the H2O
	0745	Frigate sp	1	W		then proceeded S
	0746	Leach's	2	W		imm over ship
	0755	Wedgetail	1	W		on H2O
	0800	Wedgetail	1	W		dark
	0809	Leach's	1	W		dark
	0817	Shear. Pet	1	W		
	0818	Leach's	2	NW		light below, Pterodroma? to far out
	0819	Wedgetail	1	W		
	0823	Leach's	1	W		light
	0826	Frigate Sp	1	W		
T	0837	WRSP	1	W		imm
	0842	WRSP	6	W		
	0848	Leach's	1	W		on H2O
			3	W		
	0849	Leach's	1	W		on H2O
	0851					Coconut with school of small fish and a small shark 2½'
	0852	~~Leachs~~	2	W		
	0855	wedgetail	1	NW		light
	0856	WRSP	2	W		on H2O
	0858	Leachs	3	W		" "
	0904	WRSP	3	W		
F	0907	Leach's	11	W		on H2O
	0909	Wedgetail	1	NW		light
	0910	WRSP	4	W		
	0912	WRSP	4	W		
	0915	Leach's	1	W		
	0925	Frigate sp	1	W		imm circling
	0940	Wedgetail	1	W		light on H2O
	1006	Wedgetail	1	W		" "
FF	1025	Sooty Tern	75	W		1 AD
		Wedgetail		W		8 dark } over fish 10" long, jumping
	1030	BFB	22	W		
	1034	WRSP	1	W		s. ad
	1036	Wedgetail	2	W		
	1045		1	W		light
	1335					stop
						90

WTS-30 Leach's-26
PJ-1
S-P-2 WSSP-26
ST-75
BFB-1 Frig-3

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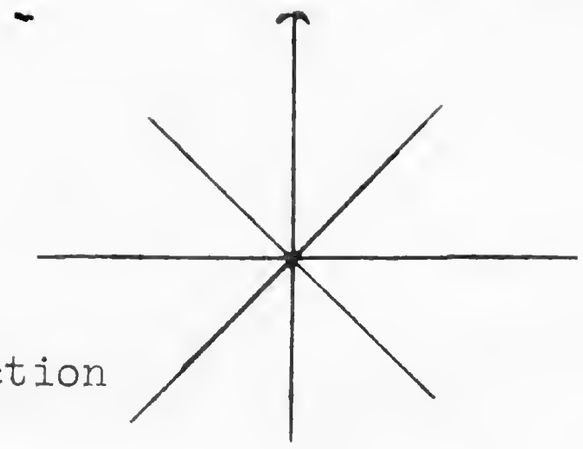


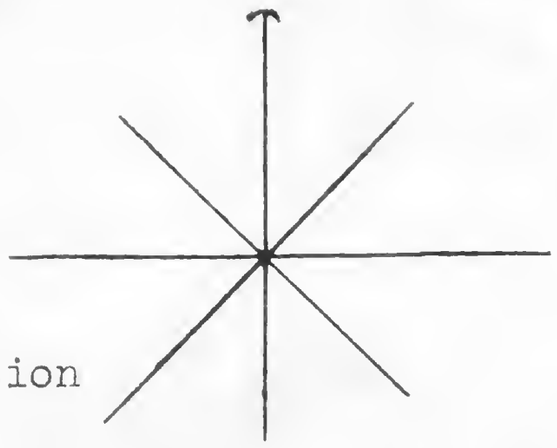
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 22 Feb 67
Pg.# 2

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1349	Leach's	1	a		
1403	Leach's	1	a		
1422	~~Leach's~~ JFP	1	a		good look 005 JFP
1436	Leach's	2	a		
1449	Leach's	1	a		
1450	Wedgetail	1	a		
1502	WRSp	3	a		light
1507	RTTB	1	a		on H_2O
1553	WRSp	1	a		over ship S. to d
1625	Baoby Sp	1	a		
1811					Sunset

P L
10 21



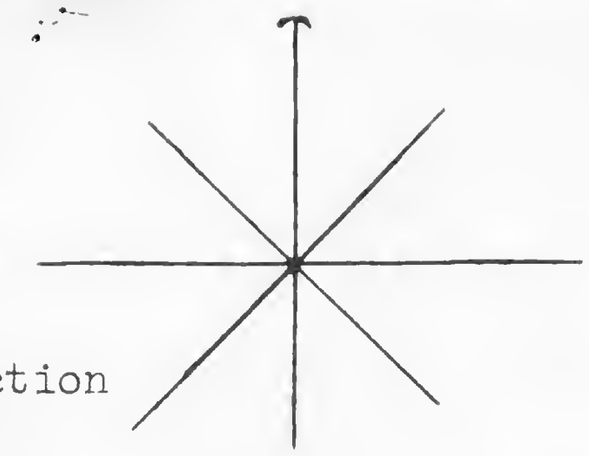
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 23 Feb 67
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0630					begin
0656	Wedgetail	1	♀		dark
0714	Wedgetail	1	♀		light
0720	Wedgetail	1	w		light
0735	Wedgetail	1	♀		light
0802	Wedgetail	1	♀		
0807	Leach's	1	sw		light
0816	Sooty Tern	1	♀		
0847	L.T. Jaeger	1	♂		ad
0918	Leach's	1	♀		imm
0924	Wedgetail	1	♀		
0929	R. Phalarope	1	♀		light
1028	Leach's	3	♀		on H2O, calling
1100		1	♀		
1430					Stop
1448	Wedgetail	1	♀		Go light
1456					Shark
1504	Leach's	2	♀		
1541	WRSP	2	♀		
1558	Leach's	12	♀		on H2O
1606	Tern Sp	1	N		"
1624	Leach's	2	♀		
1636	Leach's	3	♀		lt
1706					Dolphin jumping 5'
1716	Leach's	1	♀		
1721	Leach's	1	♀		
1722	Wedgetail	1	♀		
1739	WRSP	1	♀		light
1812		1	♀		
					Sunset

28¾
144 | 41.000
288
1200
1152
480
528
1600

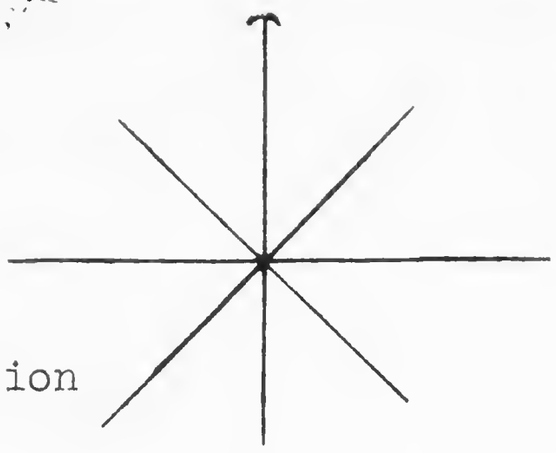


OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 24 Feb 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					basin
0711	Par. Jaeger	1	a		Ad dark
0944	WRSP	1	a		
0945					Hammerhead 5'
1010	WRSP	1	a		
1030	WRSP	1	a		
1300					STop
					Go
1316	Wedgetail	1	a		dark
1343	WRSP	1	a		
1345	Leach's	1	a		
1347	Leach's	3	a		
1359	Leach's	4	a		
1417	WRSP	1	a		
1440	JFP	1	a		
1446	WRSP	1	a		on H_2O
1452	Leach's	1	a		
1455	Phalaropes sp	1	a		
1518	Wedgetail	1	a		
1519	Wedgetail	1	a		dark
1524	Wedgetail	1	a		light on H_2O
1539	Wedgetail	1	a		light
1538	Leach's	1	a		light
1558	Wedgetail	1	a		
1806	Leach's	1	a		light
1810	Leach's	1	a		
1813		1	a		
					Sunset



Ship
Direction

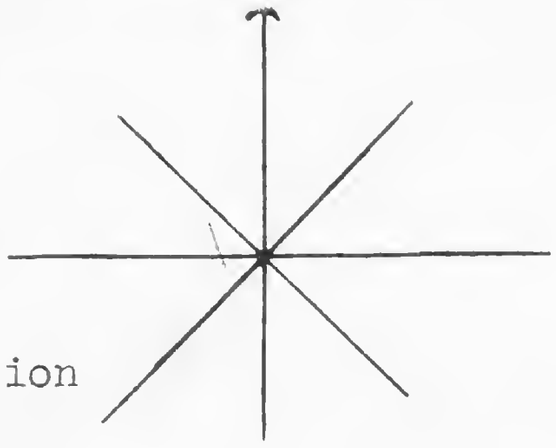
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Nocturnal

Date 24 Feb
Pg.#

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
	2200				begin
	2218 Wedgetail	1			light
	2305 WRSP	1			
	2340 Leaches ~~WRSP~~	1			coll



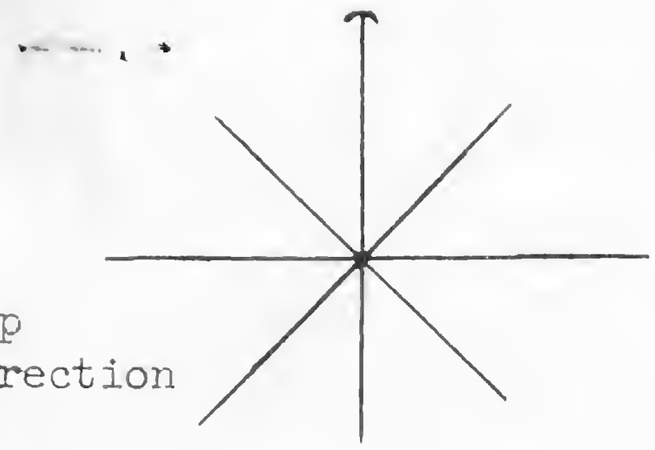
Ship Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 25 Feb
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	0720					Start
	0721	Frigate sp	1	a		Ad ♂
	0735	Leachs	1	a		
FF	0758	Sooty Tern	23	a		Ad over dugouts 6'
	0800	Leach's	1	a		
	0811	WRSP	1	a		
	0818	Leach's	1	a		
	0828	Wedgetail	1	a		on H_2O
	0845					dark
						Shark 6'
	0902	Leach's	1	a		on H_2O
	0916	Leach's	2	a		on H_2O
	0934	Leach's	1	a		"
	0939	Leach's	1	a		"
	1015					hammer head 7'
	1030	WRSP	1	a		
	1400					Stop
	1417					Go
	1425	Leach's	1	a		hammerhead 6'
	1508	R. Phalarope	1	a		
	1614			N		
	1615					Chelonia mydas
	1620	Leach's	1	a		1600 jelly fish Scyphozoa
		R. Phalarope	1	a		on H_2O



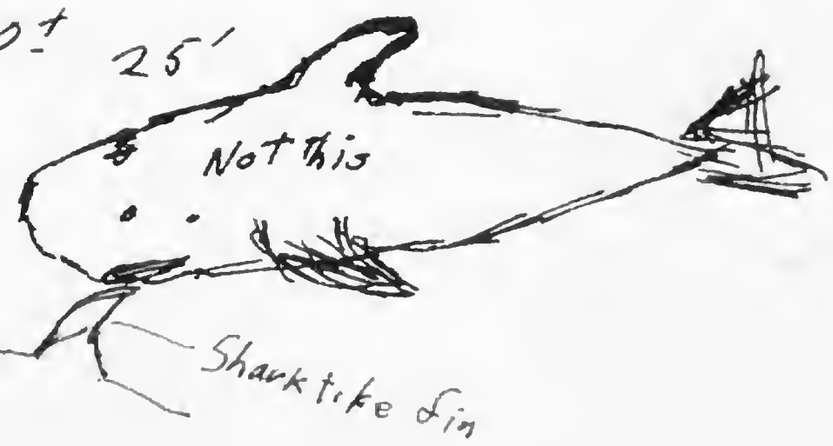
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 26 Feb 67
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					begin
0709	Leach's	1	a		
0724	Leach's	1	a		
0732	Shear-Pet	1	a		
0749	WRSP	1	a		brown + white - wayout
0832	WRSP	1	a		
0842	WRSP	1	a		
0848	WRSP	1	a		
0856	WRSP	1	a		
0858	Leachs	1	a		
0900	WRSP	2	a		
0902	Leachs	1	a		
0909	WRSP	1	a		
0910		1	a		
0915	WRSP				4 porpoise
0922	WRSP	3	a		
0938		1	a		
0939	WRSP				Turtle
0945		1	a		
0952	Leachs				1° Pelet whales — 2° Porpoise
1002	WRSP	2	a		
1005	WRSP	3	a		
1010	Leachs	3	a		
1015		1	a		
1022	Leachs				whales
1024	Leachs	1	a		
1026		1	a		
1030	WRSP				2 porpoise
1430		1	a		
1440	Leach's				Go Stop
1450	Leachs	1	a		
1453	WRSP	1	a		
1500	WRSP	3	a		on H2O displaying
1501	Shear-Pet	1	a		
1502	WRSP	1	a		
		4	a		

(4)



SI-MNH-958-e
Rev. 5-66

OBSERVERS:

Ship Direction

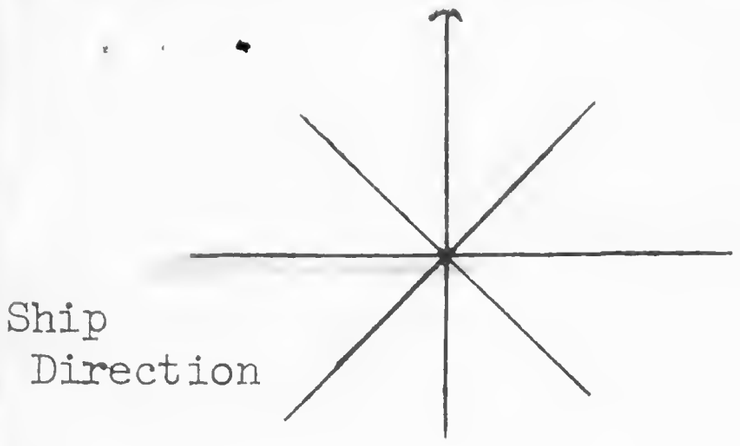
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 26 Feb 67
Pg.# 2

	TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
	1512	WRSP	2	a		
	1518					10± whales — cowlike head — musopodan
	1521	WRSP	2	a		
	1524	WRSP	1	a		
F	1526	Leach's	12	a		on H2O
	1532	Leach's	3	a		
	1533	Xmas I. S.	1	a		? couldn't be anything else, but way out for one?
	1544	WRSP	4	a		
	1545	WRSP	4	a		
	1550	WRSP	4	a		
	1555	WRSP	4	a		birds scattered
	1559	Leachs	4	a		
	1624	WRSP	3	a		on H2O
	1702	WRSP	2	a		
FF	1718	WRSP	9	a		

(55)

SI-MNH-958-e
Rev. 5-66



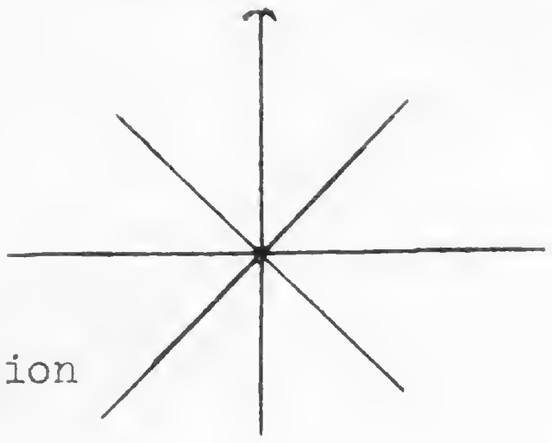
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 26 Feb
Pg.# 1

Nocturnal

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
2100					begin
2110	Shear Pet	1	e		Audubons?
2200	WRSP	1			
2300	WRSP	1			
2310	WRSP	1			



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 27 feb
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0630	—				begin
0641	WRSP	1	a		feeding
0659	WRSP	1	a		
0709	WRSP	1	a		
0711	WRSP	1	a		
0729	WRSP	1	a		
0807	Leach's	1	a		
0813	Leach's	1	a		
0822	WRSP	1	a		
0830	Leach's	3	a		Rain
0900	WRSP	4	a		
0911	WRSP	2	a		
0917	Leach's	5	a		
0932	Leach's	3	a		
0946	Phalaropes sp	2	a		
0952	WRSP	3	a		
1008	WRSP	1			
1015	WRSP	1			
1016	WRSP	1			
1020	WRSP	4			
1022	WRSP	4			
1034	WRSP	1			
1100	WRSP	1			
1300					stop
FF 1547	WRSP	15	a		
1552	WRSP	1	a		
1616	WRSP	1	a		
1618	WRSP	1	a		
1629	Leach's	1	a		
1704	WRSP	1	a		
1731	WRSP	1	a		

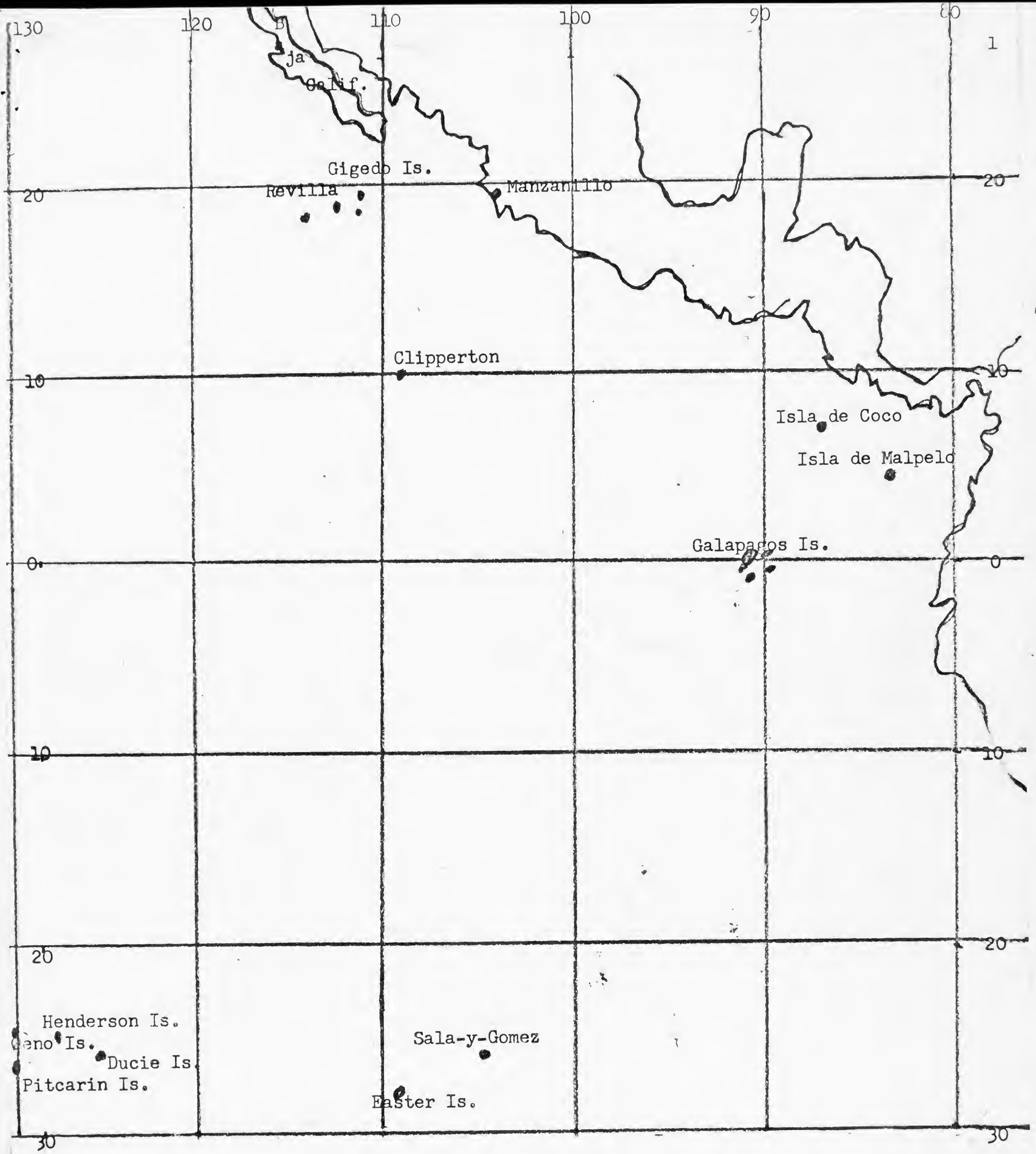
Eastern Area

Miscellaneous Pelagic Cruise No. 9

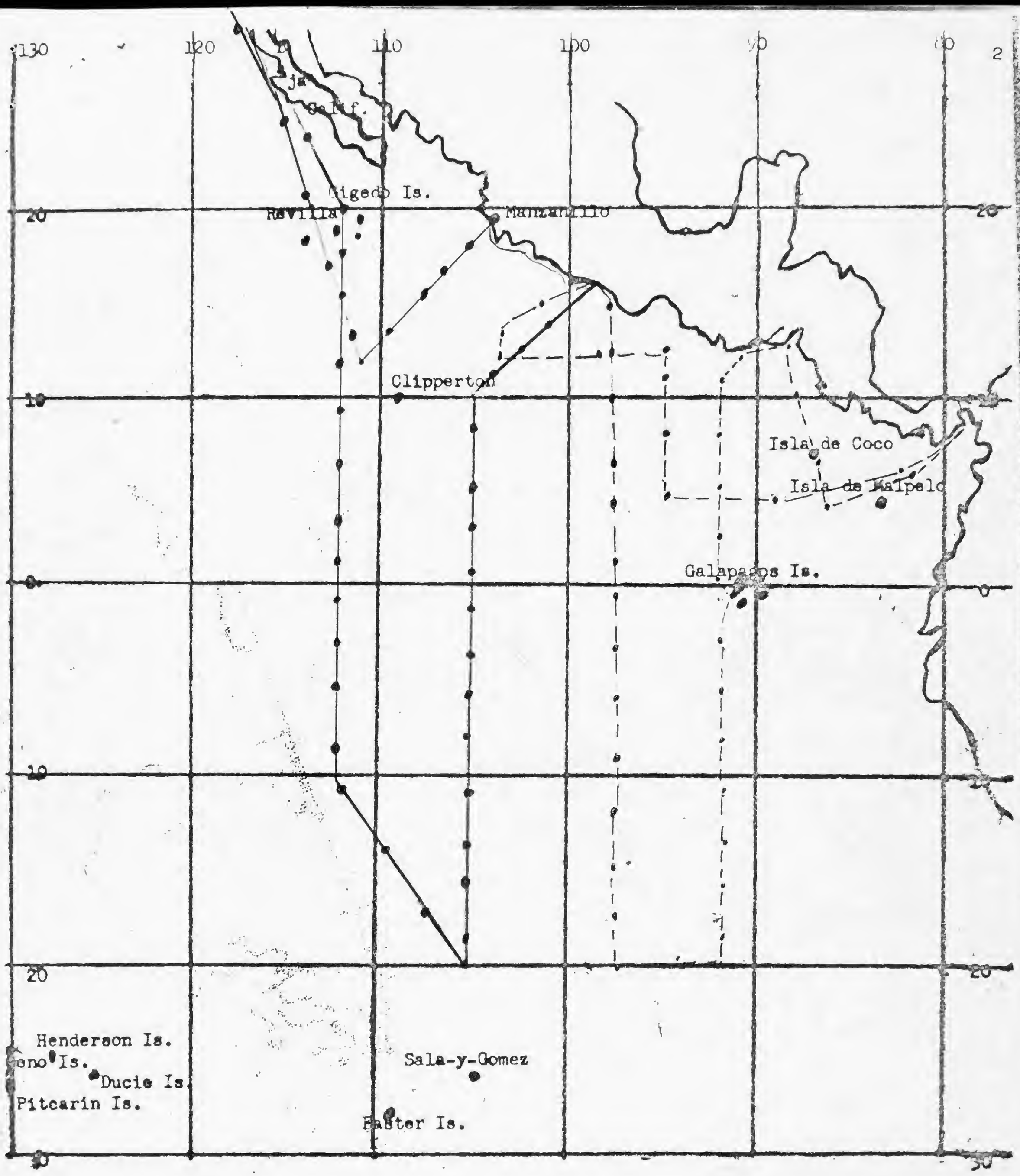
SUMMARY OF EASTERN PACIFIC OCEAN BIRD OBSERVATIONS

Feburary 7 to March 24, 1967
Aboard the DAVID STARR JORDAN

Walter Bulmer Jr.
Pacific Program



MAP OF AREA WHERE EASTROPAC SURVEYS ON JORDAN AND ROCKAWAY OCCURRED.



CRUISE TRACKS OF JORDAN (SOLID LINE) AND ROCKAWAY (BROKEN LINE)

The David Starr Jordan departed San Diego February 7 to participate in the EASTROPAC Project. The primary objective of the trip was to survey the oceanographic environment of physical and biological relationships between the area of 20°N - 112°W and 20°S - 105°W in an attempt to find a better understanding of pelagic tuna resources.

The ship traveled from San Diego to 12°N - 111°W and then headed northeast on a direct line for Manzanilla, Mexico. On 18 February the ship departed Manzanillo and traveled along the coast of Acapulco. From Acapulco, stations were resumed on 20 February and the track ran southwest to 12°N - 105°W. The ship then proceeded south along 105°W to 20°S. From this point a northwestern course was taken without stations until 10°S - 112°W was reached. The Jordan continued along 112°W to 20°N, where the study area ended and then returned to San Diego on 24 March. Environmental data were collected at about 20 mile intervals in all areas between 20°N and 20°S except the two areas previously mentioned.

As a visiting scientist aboard the David Starr Jordan, I conducted bird, mammal, and fish observations for 43 days while the ship was at sea. Excellent cooperation was received from Dr. Longhurst, the scientific crew, Captain Foster, and the ship's crew, in all phases of observing and collecting birds throughout the trip. This preliminary report summarizes these observations.

In 40 days, a total of 308.5 hours was spent observing, while the ship traveled 3,218 miles. An additional 38 hours of nocturnal observations were recorded from various points throughout the trip. Observations were conducted on three additional days but due to the proximity to the coast only species accounts and relative abundance of species were recorded.

During diurnal observations 4,020 birds of 41 species were recorded. Nocturnally, 175 birds of 8 species were recorded. Sooty Terns (1117) were the most abundant. Leach Storm Petrels (948) and Red Phalaropes (137) were regularly seen throughout the trip. Townsend Shearwater (687), Wedge-tailed Shearwaters (291) and Red-footed Boobies (253) were present in large numbers in restricted areas. The most abundant bird throughout the trip in terms of birds per square mile was Leach Storm Petrel.

METHODS

Observations were conducted from sunrise to sunset throughout most of the trip. Watches were not held during the noon station which varied in length from 2 1/2 to 4 hours. Due to the difference in daily steaming time the most important figure is birds per linear mile per day and not total birds per day.

Observations were conducted from the flying bridge or the bow depending on the type of avifauna present (e.g., feeding flocks readily observed from the flying bridge, storm petrels readily identified from the bow). Observational emphasis was placed on sighting and identifying birds near the ship. As a result, more distant birds may have been often missed. For this reason the total number of categories of observation (e.g., those sightings categorized as shearwater/petrel, Pterodroma sp., and Tern sp.), are less than might be expected.

DISCUSSION

For purposes of analysis the cruise track was divided into six sections. Each section was determined on the basis of the fauna present and in the most elementary way illustrates six different habitats encountered. It is hoped that when final breakdown of environment is available a more precise zoogeographic map of the area can be completed. A major fault with this preliminary division of the cruise track can be illustrated by area "E". This area covers roughly from 5°S to 20°S and 11 days of observations. Area "E" contains the outer edge of the Humboldt current where bird density was 1.159 birds per linear mile on the 3rd of March. But at 20°S the environment was virtually barren of life and density sank to .078 birds per linear mile.

Each area is dominated by birds from certain land masses which may be close or far distant (e.g., area "B", around the Revilla-Gigedo Islands is dominated by birds breeding on these islands; area "D" in the equatorial doldrums, where dominant birds were Leach Storm Petrels and Red Phalaropes from the Arctic). The daily analysis of each area is illustrated in Tables 4-9.

Area "A". 30°N to 20°N

This area is influenced by birds from adjacent Baja California, and wintering birds from higher latitudes. The dominant species group was storm petrels, with gulls second. Shearwater/petrels were represented in this area by cold-water species or sub-species from the Baja coast and the Southern Hemisphere.

Large areas of kelp and an abundance of cetaceans and pinnepeds are characteristic of this area. The average surface temperature was 10°C.

Appendix C contains a summary of observations along the Baja coast on March 23rd and 24th.

Area "B". 20°N-114°W to 12°N-109°W

Tropical seas surrounding the Revilla-Gigedo Islands and dominated by birds from these islands. The Townsend Shearwater, endemic to this area, was the most abundant bird species. Area "B" had the highest

all-over bird density, with large flocks of Sooty Terns and boobies feeding over tuna schools.

Shearwater/petrels were the dominant group. Wintering and resident populations of storm petrels occurred sympatrically making storm petrels the second most abundant group.

Area "C". 14°N-109°W to 3°N-105°W

This was an arbitrarily chosen area, encompassing several environments and birds of multiple origin. The northwestern track was characterized by choppy seas, with flocks of Sooty Terns of possible Tres Marias origin. The southeastern leg had very calm seas and Leach Storm Petrels were the dominant birds. The equatorial counter-current did not support the large bird populations found farther west and is evidently less distinctive at this longitude.

Sooty Terns were the most abundant species with Leach Storm Petrels, Brown Boobies, Red Phalaropes, and Wedge-tailed Shearwaters occurring in significant numbers. Most of the area was influenced by coastal species. Appendix "D" is a summary of species and populations observed along the coast from Manzanillo to Acapulco.

Area "D". 30°N 105°W-4°S 105°W and 4°S 112°W-5°N 112°W

This area is commonly referred to as the Doldrums, and has almost identical characteristics across the entire Pacific. It is characterized by very calm seas, which are rich in plankton and support large populations of cetaceans, but relatively few birds. Due to this phenonemon the "equatorial doldrums" are of special ornithological interest. Explanations for the lack of birds may be due to a lack of fish, or the lack of wind which most pelagic species appear to prefer. In any case careful analysis of environmental data should help to answer important questions on distribution and habitat of pelagic birds.

Leach Storm Petrels were by far the most abundant birds. Red Phalaropes were recorded regularly but not commonly. Other species were recorded on the fringes of the area, and were probably only passing through.

Area "E". 5°S-20°S along 105°W and 112°W

Rough seas and high winds prevailed throughout this area. Although Sooty Terns were the most abundant species present, petrels were an area indicator. Several species of Pterodroma were only encountered within this area.

Environment varied from rich zones at 10°S to virtually barren seas at 20°S. Birds were found feeding on large schools of flying fish chased

to the surface by skipjack. The heaviest concentration of birds was found on the eastern leg where perhaps some effect of the Humboldt current may have brought fish to the surface.

Area "F". 5°N-10°N along 112°W

A rich counter-current with moderate winds, choppy seas, and rain squalls characterized this area. Large flocks of Sooty Terns and Wedge-tailed Shearwaters with assorted Pterodroma made this area quite interesting ornithologically. Plankton counts were higher in the North Equatorial Current, and yet bird populations were always found in the narrow counter-current. Complete analysis of environmental data from EASTROPAC cruises will aid in answering important questions of zoogeographical distribution and niches of species native to the Equatorial Countercurrent.

BIRDS SPECIES ACCOUNTS

Black-footed Albat
(Diomedea nigripes

One Black-foo as obse on the first day out of San Diego.

Pale-footed Shearw
(Puffinus carneipe

One Pale-foot observ 14°S.

Wedge-tailed Shearwa
(Puffinus pacificus)

Wedge-tails were very abundant in the equatorial counter current along 10°N. The main population (240) was observed west of Clipperton Island. The color-phase ratio was 83% light to 17% dark.

In view of the lack of Wedge-tails around the Revilla-Gigedo Islands, it seems logical to conclude that the birds found at 10°N constitute the main wintering population from these islands. It is not entirely impossible for Hawaiian Wedge-tails to be present in small numbers since Wedge-tails appear constant across this counter current area to the west.

Two males were collected. One was molting and had small gonads. The second male was in fresh plumage and the gonads had begun to increase in size.

Slender-billed Shearwater
(Puffinus tenuirostris)

Two separate sightings of this species at 13° and 16°S. Both birds passed close enough for positive identification, and both were heading northwest. This species and the Pale-foot are presumably non-breeders, or birds that have departed from their nesting home early due to nest failure. Another possibility is that these Slender-bills may be from the small Easter Island population which may have completed nesting.

Christmas Shearwater
(Puffinus nativitatus

The single sighting of this species along the equator at 105°W. was quite unexpected. Until more is known about its pelagic range, the Christmas Shearwater must be considered a straggler this far east.

Townsend Shearwater
(Puffinus puffinus auricularis)

A very abundant shearwater in the seas around the Revilla-Gigedo Islands. In March they were found farther north than in February, but this form probably has a limited pelagic range.

Black-vented Shearwater
(Puffinus puffinus opisthomelas)

This sub-species inhabits the cold California current, breeding on islands along the Baja Coast. It is readily identified from the predeeding form by its larger size, brownish back and dark flanks.

Dark-rumped Petrel
(Pterodroma phaeopygia)

Dark-rumps were found regularly in the equatorial counter current at 112°W. These birds appeared rich brown dorsally, differing from the single sighting along the equator which was sooty black above. It is remotely possible that the northern population is P. p. sandwichensis from Hawaii. The southern bird was almost definitely P. p. phoeopygia from the Galapagos.

Juan Fernandez Petrel
(Pterodroma externa externa)

The scarcity of Juan Fernandez Petrels sightings along the rich counter currents is indicative of birds remaining on their non-breeding grounds during the breeding season. Most Juans appeared in bad molt with occasional individuals showing large white patches on the dorsal surface of their wings. These white patches were so pronounced that they gave me a first impression of being Daption. Mr. Heiden also observed this phenomonon on the Rockaway cruise.

Tahiti Petrel
(Pterodroma rostrata)

Although this species is very difficult to separate from Phoenix Petrels, both individuals observed this trip came close enough to be positively identified. Factors making identification possible were: large size, worn light brown plumage, and massive bill-small head appearance. I believe that I saw a couple during nocturnal observations but listed them as Pterodroma sp.

Black-winged Petrel
(Pterodroma hypoleuca)

Black-wings were recorded regularly in the southern hemisphere. These birds probably represent individuals that have finished their breeding cycle early, or have had nest failures.

Kermadec Petrel
(Pterodroma neglecta)

Kermadec Petrels were recorded further north than any other tropical species of Pterodroma. Sightings were usually of single birds and were distributed over four areas. Color-phases recorded are: 1 dark, 6 light with chest bands in the northern hemisphere, 3 light without chest bands in the southern hemisphere. The remaining 4 birds are a result of an estimate on a feeding flock of Pterodroma.

Murphy Petrel
(Pterodroma ultima)

This species was recorded with some regularity between 10°S and 15°S. Its uniform light brown pattern, typical Pterodroma shape and flight, readily identify it once other dark shearwater/petrels are known. In size it appears between the Kermadec Petrel and the Juan Fernandez Petrels although the physiognomy resembles P. externa.

Cook Petrel
(Pterodroma cookii)

This cold water species of Pterodroma was found most abundantly along the convergent zone of the California current and the warm water mass in the Cape San Lu area. Its flight, color pattern and white wing stripe aid in identification.

White-winged Petrel
(Pterodroma leucoptera)

This species was abundant in the south equatorial counter current. The population probably represents post-breeding birds from Mas Afuerra. The overlapping pelagic ranges of Pterodroma leucoptera and Pterodroma hypoleuca indicates a difference in feeding habitats which is as yet unknown. A careful analysis of environment and stomach contents of these two species should aid in answering questions on basic ecological concepts that would further the understanding of all species in the pelagic habitat.

Harcourt Storm Petrel
(Oceanodroma castro)

I am quite sure I saw this species from about 5°S to 10°S. Due to the difficulty in separating this from Leach Storm Petrel, most birds were logged as Leach or next most similar species. The four individuals logged as Harcourt definitely lacked the dark feathers in the middle of the rump patch. Other that this I could find no difference in pattern, size, or behavior from Leach Storm Petrel. I must also state that these birds were not Oceanodroma tethys, or Oceanites oceanicus and were recorded as Oceanodroma castro by the elimination of the above two species.

Leach Storm Petrel
(Oceanodroma leucorhoa)
White-rumped Storm Petrel sp.

A very abundant species, perhaps one of the most abundant birds in the world. Recorded in every section of the cruise, being second only to Sooty Terns in total number of individuals. Large populations were found about 25°N, 13°N, 10°N, and throughout the equatorial doldrums. After crossing the doldrums, Leach became rarer until they finally disappeared at 17°S.

Under good conditions two forms can be recognized in the field. The northern form, Oceanodroma l. leucorhoa, appears larger, darker, and has more white in the rump. The southern form which includes about three sub-species, is smaller, browner, and the amount of white in the rump varies considerably. Both forms were observed in all sections of the cruise track, but I think the northern form was dominant at 25°N, and the southern birds at 13°N, 10°N, and all of area "C". The large populations along the doldrums contained both forms of unknown ratios. All sub-species inter-mix freely at sea, and at least two races were collected from the same flock. The southern birds were in very worn plumage especially on head and throat while the northern birds were not.

Ashy Petrel
(Oceanodroma homochroa)

This species evidently occurs south of its breeding range at least to the Revilla-Gigedo Islands in non-breeding season. It was observed in flocks of light and dark-rumped Leach and was distinguished by its smaller, chunkier appearance, fluttering flight, and light grey under-wing converts.

White-throated Storm Petrel
(Nesofregetta albigularis)

Expecting Fregetta grallaria, I was quite surprised to find Nesofregetta the only white-bellied Storm Petrel present along the southern equatorial counter-current. When taken into consideration the scarcity with which this species is recorded in close proximity to nesting colonies, I must conclude that Nesofregetta is an abundant bird of the counter currents transversed on this tripl Birds south of the equator are probably of Marquesas origin. It is quite possible that birds north of the equator are from the Christmas Island population.

Least Petrel
(Halocyptena microsoma)

This species was recorded regularly in the seas surrounding the Revilla-Gigedos Islands and to the east. The majority of the population winters in the seas around Panama along with the Black Petrel (Oceanodroma melania) which was totally lacking from the area covered in this cruise.

Red-billed Tropicbird
(Phaethon aethereus)

Red-billed Tropicbirds were found in proximity to the coast, or islands which they breed on. Unlike its larger relative, the Red-tailed Tropicbird, it was very rarely attracted to the ship.

Red-tailed Tropicbird
(Phaethon rubricauda)

This species was found commonly in the Southern Hemisphere, regularly around Clipperton Island and occasionally in other areas with the exception of area "A". The origin of birds observed throughout the trip is quite difficult to determine. It may be safe to say that Southern Hemisphere birds were from the Marquesas, but this would have to be proven. Birds around Clipperton Island indicate previously unrecorded breeding population may be present but this is unconfirmed. If there isn't a breeding population in this area, the birds are probably from the Galapagos - 1,200 miles, or the Hawaiian Leewards - 3,500 miles away!

Blue-footed Booby
(Sula nebouxii)

Blue-foots were encountered only rarely. They evidently do not wander far from their breeding islands.

Blue-faced Booby
(Sula dactylatra)

All sightings north of the equator are probably from Revilla-Gigedo nesting stations. One bird in the Southern Hemisphere represents the only booby observed in that area.

An excellent example of the highly developed behavior pattern which is so typical of the family Sulida was observed and is here recorded. While cruising along at our normal 10 knots a magnificent adult Blue-faced Booby happened to spot the David Starr Jordan. To satisfy its curiosity the beast changed course and flew over our ship to investigate this strange object which had entered its watery domain. In no time at all the bird realized that it could travel along motionless, utilizing the up-draft produced by the ship's bow. Everything was going fine until our great booby spotted a morsal of food, wheeled and dove. The bird returned to the surface with the fish in its bill just in time to see the David Starr Jordan run him over.

Red-footed Booby
(Sula sula)

All Red-foots observed were light phase, and therefore can be attributed to the Revilla-Gigedos Islands, Tres Marias, and Clipperton Islands. The adults of this race have dark tails making them difficult to distinguish from Blue-faced Boobies at a distance. Red-foots were the most abundant booby at sea, being replaced by Brown Boobies when close to shore.

Brown Booby
(Sula leucogaster brewsteri)

Brown Boobies are the most abundant booby along the coast, and only rarely wander out to sea. This sub-species is identified by the white headed males.

Magnificent Frigatebird
(Fregata magnificens)

The scarcity of frigatebird sightings is due to this species preferring coastal waters, and the probability of this being their nesting season. There is no indication of Fregata minor being present, although it is known to occur in the area.

Red Phalarope
(Phalaropus fulicarus)

This species was recorded in every section and on almost every day of the cruise. The largest concentrations were found along the coast in area "C". Almost every natural slick contained Phalaropes and Storm Petrels as the two plankton feeding birds prefer to feed in calm waters.

Phalaropes appeared regularly on nocturnal stations, and could be identified by their call.

Northern Phalarope
(Lobipēs lobatus)

This species can be identified by its dark, striped back. The main wintering grounds are off of Peru and Chile. I feel that very few Northern Phalaropes wintered in this area, and the vast majority of Phalaropes sp. can be attributed to Red Phalaropes.

Pomarine Jaeger
(Stercorarius pomarinus)

Pomarines are the only species of Jaeger wintering commonly in the Northern Hemisphere. Large concentrations were found along the coast and in the shipping lanes. This species, like gulls, has learned to follow ships early in the morning and late in the afternoon to receive scraps for their respective meals. A few birds still exist to the high seas by stealing fish from terns. Notes were taken on one Jaeger catching a Storm Petrel.

Parasitic Jaeger
(Stercorarius parasiticus)

Although not common, this species occurs regularly in the tropical seas off of Central America. Birds were associated with Sooty Tern flocks or found singularly. One individual was observed chasing a young Red-tailed Tropicbird.

Young birds are very difficult to separate from young Pomarine Jaegers. Size, flight, and broadness of the wing are helpful, but most individuals must be logged as Jaeger sp.

The dominant adult color-phase present was dark.

Gulls:
Laridae

All gulls recorded on this cruise were observed on the first day, after leaving San Diego. For purpose of simplicity they can be divided into two categories; coastal ship following species, and pelagic species.

The first category includes California Herring and Western Gulls in which the adults of all three species were the most important group.

The second group contains the Black-legged Kittiwake and the Sabine Gull. Immature Kittiwakes outnumber the adults about 5 to 1. Two immature Sabine Gulls represent one sighting and were of usual occurrence in this area at this season. The main wintering population of Sabine Gulls is at the Humboldt current off of South America.

White-capped Noddy
(Anous minutus)

The single sighting of this species on February 16 is probably from Clipperton Island.

Sooty Tern
(Sterna fuscata)

The most abundant species of the trip and the dominant species of areas "C", "E", and "F". The distribution was not as uniform as Leach Storm Petrel, but Sooty Terns were present in large numbers in select areas.

Several populations representing different island origins were encountered. South of the equator Sooty Terns were probably from the Marquesas Islands. The immature found in this area was in fresh plumage indicating a fall nesting population characteristic of the Marquesas.

Flocks feeding adjacent to Clipperton Island contained dark immatures. These birds are most likely of Clipperton origin and indicate a prolonged nesting season in Clipperton. Immature Sooty Terns recorded around the Revilla-Gigedos and to the east were molting from immatures to sub-adult plumage. These individuals appear light brown and are probably about 10 months old.

An interesting ethological note is the lack of nocturnal sightings along the shipping lanes.

White Tern
(Gygis alba)

Fairy Terns were observed casually in the Southern hemisphere. Individual sightings were of birds feeding alone, or in association with Sooty Tern flocks. Those birds are probably from the Marquesas Islands.

Xantus Murrelet
(Endomychura hypoleuca

Observed adjacent to Baja California and identified as to race by their white underwing.

TABLE 1. Summary of Area Observations.

	A	B	C	D	E	F	TOTAL
No. Miles	321	478	837	528	903	151	3218
No. Hours	33.3	47.9	72.3	48.7	89.1	17.1	308.5
No. Birds	290	1577	750	309	497	597	4020
No. Flocks	9	23	16	6	12	12	78
No. Species	15	16	19	8	18	13	41

TABLE 2. Abundance of Species Groups by Area.

Species	A	B	C	D	E	F	Total	% of Total
Shearwater-Petrel	15	674	74	10	126	256	1155	28.7%
Storm Petrel	144	308	154	268	58	64	996	24.8%
Tropicbird	0	15	16	1	24	3	59	1.5%
Booby	0	259	110	0	1	1	371	9.2%
Frigatebird	5	13	8	0	0	0	26	.6%
Phalarope	7	10	68	24	11	11	131	3.3%
Jaeger	4	9	9	0	9	2	33	.8%
Gull	109	0	0	0	0	0	109	2.7%
Tern	0	289	311	6	268	260	1134	28.2%
Alcid	6	0	0	0	0	0	6	.2%
Total	290	1577	750	309	497	597	4020	100.0%

TABLE 3. Species Abundance by Areas.

Species	Area- A	B	C	D	E	F	Total
Black-footed Albatross	1	0	0	0	0	0	1
Pale-footed Shearwater	0	0	0	0	1	0	1
Wedge-tailed Shearwater	0	0	51	0	0	240	291
Slenderbilled Shearwater	0	0	0	0	2	0	2
Christmas Shearwater	0	0	0	1	0	0	1
Townsend Shearwater	0	668	19	0	0	0	687
Black-vented Shearwater	3	0	0	0	0	0	3
Puffinus sp.	0	0	0	0	0	1	1
Dark-rumped Petrel	0	0	0	1	0	1	5
Juan Fernandez Petrel	0	0	2	0	10	5	17
Tahiti Petrel	0	0	0	0	1	1	2
Black-winged Petrel	0	0	0	0	29	0	29
Kermadec Petrel	0	4	0	1	7	2	14
Murphy Petrel	0	0	0	0	9	0	9
Cook Petrel	5	0	0	1	0	2	8
White-winged Petrel	0	0	0	0	52	0	52
Pterodroma sp.	0	0	0	2	5	1	8
Shearwater/Petrel	6	2	2	4	10	0	24
Harcourt Storm Petrel	0	0	0	0	4	0	4
Leach Storm Petrel	17	198	88	120	18	42	483
Ashy Storm Petrel	2	1	0	0	0	0	3
White-throated Storm Petrel	0	0	0	0	8	2	10
Least Storm Petrel	0	9	2	0	0	0	11
White-rumped Storm Petrel sp.	124	77	64	148	27	20	460
Dark-rumped Storm Petrel sp.	1	4	0	0	0	0	5
Storm Petrel sp.	0	19	0	0	1	0	20
Red-billed Tropicbird	0	2	15	0	0	0	17
Red-tailed Tropicbird	0	13	1	1	24	3	42
Blue-footed Booby	0	6	1	0	0	0	7
Blue-faced Booby	0	32	10	0	1	0	43
Red-footed Booby	0	220	33	0	0	0	253
Brown Booby	0	1	62	0	0	1	64
Booby sp.	0	0	4	0	0	0	4
Magnificent Frigatebird	5	12	4	0	0	0	21
Fregata sp.	0	1	4	0	0	0	5
Red Phalarope	1	10	39	22	10	11	93
Northern Phalarope	3	0	1	0	0	0	4
Phalarope sp.	3	0	28	2	1	0	34
Pomarine Jaeger	4	3	4	0	7	0	18
Parasitic Jaeger	0	6	2	0	0	2	10
Long-tailed Jaeger	0	0	1	0	2	0	3
Jaeger sp.	0	0	2	0	0	0	2
California Gull	13	0	0	0	0	0	13
Herring Gull	32	0	0	0	0	0	32
Western Gull	16	0	0	0	0	0	16
Black-legged Kittiwake	44	0	0	0	0	0	44
Sabine's Gull	2	0	0	0	0	0	2
Gull sp.	2	0	0	0	0	0	2
White-capped Noddy	0	0	1	0	0	0	1

TABLE 3. continued'

Species	Area A	B	C	D	E	F	Total
Sooty Tern	0	289	309	6	253	260	1117
White Tern	0	0	0	0	15	0	15
Tern sp.	0	0	1	0	0	-0	1
Xantus Murrelet	6	0	0	0	0	0	6
Total	290	1577	750	309	497	597	4020

TABLE 4. Summary of Area "A".

Table 4a. Summary of Daily Observations

Date	Miles	Hours	Birds	B/LM	Flocks	Species
Feb. 8	83	10.0	135	1.626	2	10
Feb. 9	104	10.5	122	1.173	7	2
Feb. 10	95	9.3	19	.200	0	3
Mar. 22	39	3.5	14	.359	0	4
Total	321	33.3	290	.903	9	15

Table 4b. Nocturnal Observations in Area "A".

Date	Miles	Hours	Birds	Species	
Feb. 9	40	4	3	White-rumped Storm Petrel sp.	(2)
				Townsend Shearwater	(1)

Table 4c. Daily Species Abundance in Area "A"

Species	February- 8	9	10	March- 22	Total
Black-footed Albatross	1	0	0	0	1
Black-vented Shearwater	3	0	0	0	3
Cook Petrel	0	0	3	2	5
Shearwater-Petrel	6	0	0	0	6
Leach Storm Petrel	0	1	7	9	17
Ashy Storm Petrel	0	2	0	0	2
White-rumped Storm Petrel sp.	0	118	6	0	124
Dark-rumped Storm Petrel sp.	0	1	0	0	1
Magnificent Frigatebird	0	0	3	2	5
Red Phalarope	0	0	0	1	1
Northern Phalarope	3	0	0	0	3
Phalarope sp.	3	0	0	0	3
Pomarine Jaeger	4	0	0	0	4
California Gull	13	0	0	0	13
Herring Gull	32	0	0	0	32
Western Gull	16	0	0	0	16
Black-legged Kittiwake	44	0	0	0	44
Sabine Gull	2	0	0	0	2
Gull sp.	2	0	0	0	2
Xantus Murrelet	6	0	0	0	6
Total	135	122	19	14	290

TABLE 5. Summary of Area "B".

Table 5a. Summary of Daily Observations

Date	Miles	Hours	Birds	B/LM	Flocks	Species
Feb. 11	108	10.5	302	2.796	10	5
Feb. 12	112	11.6	945	8.437	6	12
Feb. 13	71	6.3	60	.845	1	7
Mar. 18	94	8.7	91	.968	4	8
Mar. 19	32	5.3	107	3.344	2	8
Mar. 20	39	3.5	40	1.026	0	4
Mar. 21	22	2.0	32	1.455	0	3
Total	478	47.9	1577	3.297	23	16

Table 5b. Nocturnal Observations in Area "B".

Date	Hours	Miles	Positions	Birds	Species
Feb. 11	4	41	-	5	White-rumped Storm Petrel sp. (5)
Feb. 12	4	0	12°27' 111°42'W	16	Townsend Sh. (3) Leach's Storm Pet. (12 Sooty Tern (1)

Table 5c. Daily Species Abundance in Area "B"

Species	February 11	12	13	March 18	19	20	21	Total
Townsend Shearwater	213	331	14	4	50	29	27	668
Kermadec Petrel	0	1	3	0	0	0	0	4
Shearwater/Petrel	0	0	2	0	0	0	0	2
Leach Storm Petrel	12	73	18	69	21	2	3	198
Ashy Storm Petrel	0	0	1	0	0	0	0	1
Least Storm Petrel	4	2	0	3	0	0	0	9
White-rumped Storm Petrel sp.	1	57	12	1	5	1	0	77
Dark-rumped Storm Petrel sp.	3	0	1	0	0	0	0	4
Storm Petrel sp.	19	0	0	0	0	0	0	19
Red-billed Tropicbird	2	0	0	0	0	0	0	2
Red-tailed Tropicbird	0	5	0	7	1	0	0	13
Blue-footed Booby	0	5	0	1	0	0	0	6
Blue-faced Booby	0	26	2	1	1	2	0	32
Red-footed Booby	48	157	6	1	2	6	0	220
Brown Booby	0	0	1	0	0	0	0	1
Magnificent Frigatebird	0	12	0	0	0	0	0	12
Fregata sp.	0	1	0	0	0	0	0	1
Red Phalarope	0	0	0	4	4	0	2	10
Pomarine Jaeger	0	2	0	0	1	0	0	3
Parasitic Jaeger	0	6	0	0	0	0	0	6
Sooty Tern	0	267	0	0	22	0	0	289
Total	302	945	60	91	107	40	32	1577

TABLE 6. Summary of Area "C".

Table 6a. Summary of Daily Observations

Date	Miles	Hours	Birds	B/LM	Flocks	Species
Feb. 14	92	8.6	19	.206	0	8
Feb. 15	75	7.9	134	1.787	1	8
Feb. 16	79	6.8	221	2.708	8	13
Feb. 20	104	7.7	69	.663	2	9
Feb. 21	91	8.6	23	.253	0	7
Feb. 22	111	8.3	177	1.595	3	8
Feb. 23	90	8.2	41	.456	1	5
Feb. 24	117	8.7	27	.231	0	5
Feb. 25	78	7.5	39	.487	1	5
Total	837	72.3	750	.896	16	19

Table 6b. Nocturnal Observations in Area "C".

Date	Hours	Miles	Position	Birds	Species
Feb. 14	2	0	15°54' 108°08'W	2	White-rumped S. Pet. (2)
Feb. 24	2	0	04°28' 105°00'W	3	Leach's S. Pet. (2) Wedge-tailed Sh. (1)

TABLE 7. Summary of Area "D".

Table 7a. Summary of Daily Observations.

Date	Miles	Hours	Birds	B/LM	Flocks	Species
Feb. 26	92	7.3	96	1.043	2	3
Feb. 27	66	7.8	64	.968	2	2
Feb. 28	87	8.1	29	.333	0	4
Mar. 12	49	4.7	16	.326	1	2
Mar. 13	73	5.2	11	.151	1	1
Mar. 14	74	8.4	71	.959	0	3
Mar. 15	87	7.2	22	.322	0	4
Total	528	48.7	309	.585	6	8

Table 7b. Nocturnal Observations in Area "D".

Date	Miles	Hours	Birds	Positions	Species
Feb. 26	0	3	4	00°10'S 105°00'W	Sh./Pet., WRSP (3)
Feb. 28	0	2	4	04°54'S 105°07'W	Sh./Pet. (1), WRSP (2), Sooty Tern (1)
Mar. 13	0	2.5	1	00°20'S 112°00'W	WRSP (1)
Mar. 14	0	1.5	9	02°36'N 112°06'W	WRSP (3), Red Phalarope (6)
Mar. 15	0	2.5	10	05°30'N 112°02'W	Sh./Pet. (JFP?) (1), Sh./Pet (Tah?) (1), Red Phalarope (5), Sooty T. (3).

TABLE 7. (continued)

Table 7c. Daily Species Abundance in Area "D"

Species	February 26	27	28	March 12	13	14	15	Total
Christmas Shearwater	1	0	0	0	0	0	0	1
Dark-rumped Petrel	0	0	1	0	0	0	0	1
Kermadec Petrel	0	0	0	0	0	0	1	1
Cook's Petrel	0	0	0	0	0	1	0	1
Pterodroma sp.	0	0	0	0	0	1	1	2
Shearwater/Petrel	2	0	1	0	0	1	0	4
Leach's Storm Petrel	31	14	2	15	11	35	12	120
White-rumped St. Pet sp.	62	48	18	0	0	20	0	148
Red-tailed Tropicbird	0	0	0	0	0	0	1	1
Red Phalarope	0	0	1	1	0	13	7	22
Phalarope sp.	0	2	0	0	0	0	0	2
Sooty Tern	0	0	6	0	0	0	0	6
Totals	96	64	29	16	11	71	22	309

TABLE 8. Summary of area "E".

Table 8a. Summary of Daily Observations

Date	Miles	Hours	Birds	B/LM	Flocks	Species
Mar. 1	75	8.8	31	.413	1	6
Mar. 2	86	~~8.4~~ 8.6	61	.709	2	10
Mar. 3	~~69~~ 70	~~6.9~~ 6.8	80	1.159	3	8
Mar. 4	84	~~8.1~~ 9.1	63	.750	2	11
Mar. 5	86	8.1	15	.174	0	7
Mar. 6	77	6.0	6	.078	0	3
Mar. 7	46	5.9	8	.174	0	3
Mar. 8	109	10.6	109	1.000	1	8
Mar. 9	104	9.8	22	.212	1	7
Mar. 10	92	8.8	3	.032	0	3
Mar. 11	75	7.7	99	1.320	3	4
Totals	903	89.1	497	.550	13	18

Table 8b. Nocturnal Observations in Area "E".

Date	Hours	Miles	Birds	Position	Species
Mar. 1	2.5	0	17	07°32'S 104°59'W.	Sh./Pet (1), Fairy Tern (13).
Mar. 9	4.0	0	1	10°00'S 112°00'W.	WRSP (1).
Mar. 11	2.5	0	95	4°52'S. 112°03'W.	Red Phalarope (12), Sooty Tern (76).

TABLE 8. (continued')

Table 8c. Daily Species Abundance in Area "E"

Species	March-1	2	3	4	5	6	7	8	9	10	11	Totals
Pale-footed Sh.	0	0	0	0	0	0	0	1	0	0	0	1
Slender-billed Sh.	0	0	0	1	1	0	0	0	0	0	0	2
Juan Fernandez Petrel	0	1	2	5	0	0	2	0	0	0	0	10
Tahiti Petrel	0	1	0	0	0	0	0	0	0	0	0	1
Black-winged Petrel	4	4	0	6	3	1	1	7	1	0	2	29
Kermadec Petrel	0	0	0	7	0	0	0	0	0	0	0	7
Murphy . Petrel	0	0	2	6	0	0	0	0	1	0	0	9
White-winged Petrel	2	5	31	13	0	0	0	0	0	0	1	52
Pterodroma sp.	1	0	0	1	1	0	1	0	0	0	1	5
Shearwater/Petrel	0	1	0	0	1	0	0	6	1	1	0	4
Harcourt Storm Petrel	0	4	0	0	0	0	0	0	0	0	0	4
Leach Storm Petrel	3	0	0	2	2	0	0	4	6	0	1	18
White-throated St. Pet.	0	4	2	0	0	0	0	0	1	1	0	8
White-rumped Storm Pet. sp.	9	2	4	2	1	0	0	5	0	0	4	27
Storm Petrel sp.	0	0	0	1	0	0	0	0	0	0	0	1
Red-tailed Tropicbird	0	2	2	4	3	1	4	7	0	1	0	24
Blue-faced Booby	0	0	0	0	1	0	0	0	0	0	0	1
Red Phalarope	0	3	0	1	2	4	0	0	0	0	0	10
Phalarope sp.	1	0	0	0	0	0	0	0	0	0	0	1
Pomarine Jaeger	0	0	0	0	0	0	0	6	1	0	0	7
Long-tailed Jaeger	0	0	0	0	0	0	0	2	0	0	0	2
Sooty Tern	9	29	36	12	0	0	0	70	7	0	90	253
White Tern	2	5	1	2	0	0	0	1	4	0	0	15
Totals	31	61	80	63	15	6	8	109	22	3	99	497

TABLE 9. Summary of Area "F".

Table 9a. Summary of Daily Observations.

Date	Miles	Hours	Birds	B/IM	Flocks	Species.
Mar. 16	87	8.4	64	.735	2	10
Mar. 17	64	8.7	533	8.328	10	11
Totals	151	17.1	597	3.990	12	13

Table 9b. Nocturnal Observations in Area "F".

Date	Hours	Miles	Birds	Position	Species
March 16	1.5	0	5	08°04'N 112°02'W.	Wedge-tail (1) WRSP (2) Sooty T. (2)

Table 9c. Daily Species Abundance in Area "F"

Species	March 16	March 17	Total
Wedge-tailed Shearwater	1	239	240
Puffinus sp.	1	0	1
Dark-rumped Petrel	0	4	4
Juan Fernandez Petrel	2	3	5
Tahiti Petrel	0	1	1
Kermadec Petrel	1	1	2
Cook Petrel	2	0	2
Pterodroma sp.	1	0	1
Leach Storm Petrel	10	32	42
White-throated Storm Pet.	2	0	2
White-rumped Storm Pet. sp.	8	12	20
Red-tailed Tropicbird	1	2	3
Brown Booby	0	1	1
Red Phalarope	9	2	11
Parasitic Jaeger	1	1	2
Sooty Tern	25	235	260
Totals	64	533	597

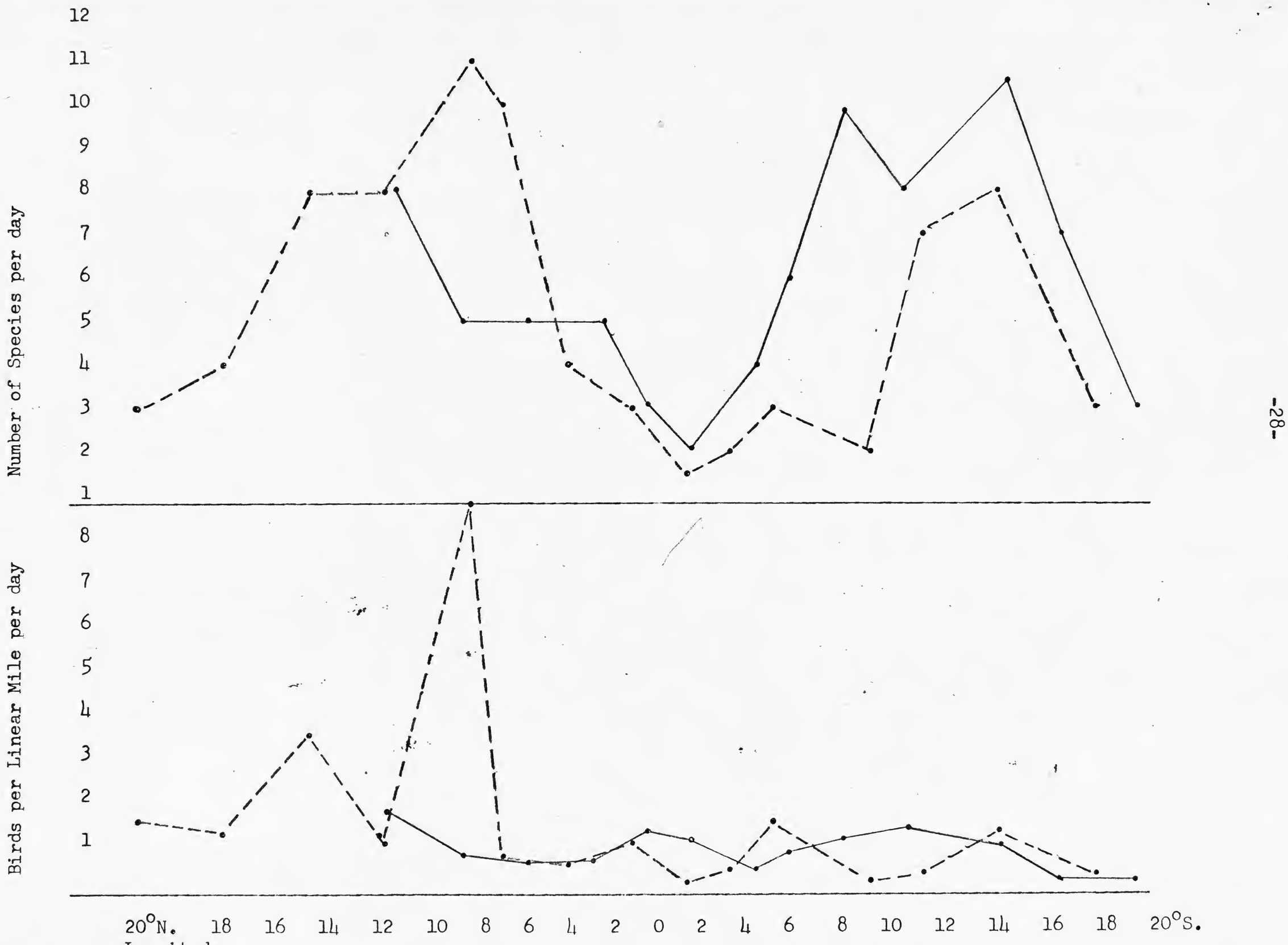


Figure 1. A Comparison of Birds per Linear Mile per day and Species per day along 105°W. and 112°W. Each point represents noon positions:
105°W.=
112°W.=

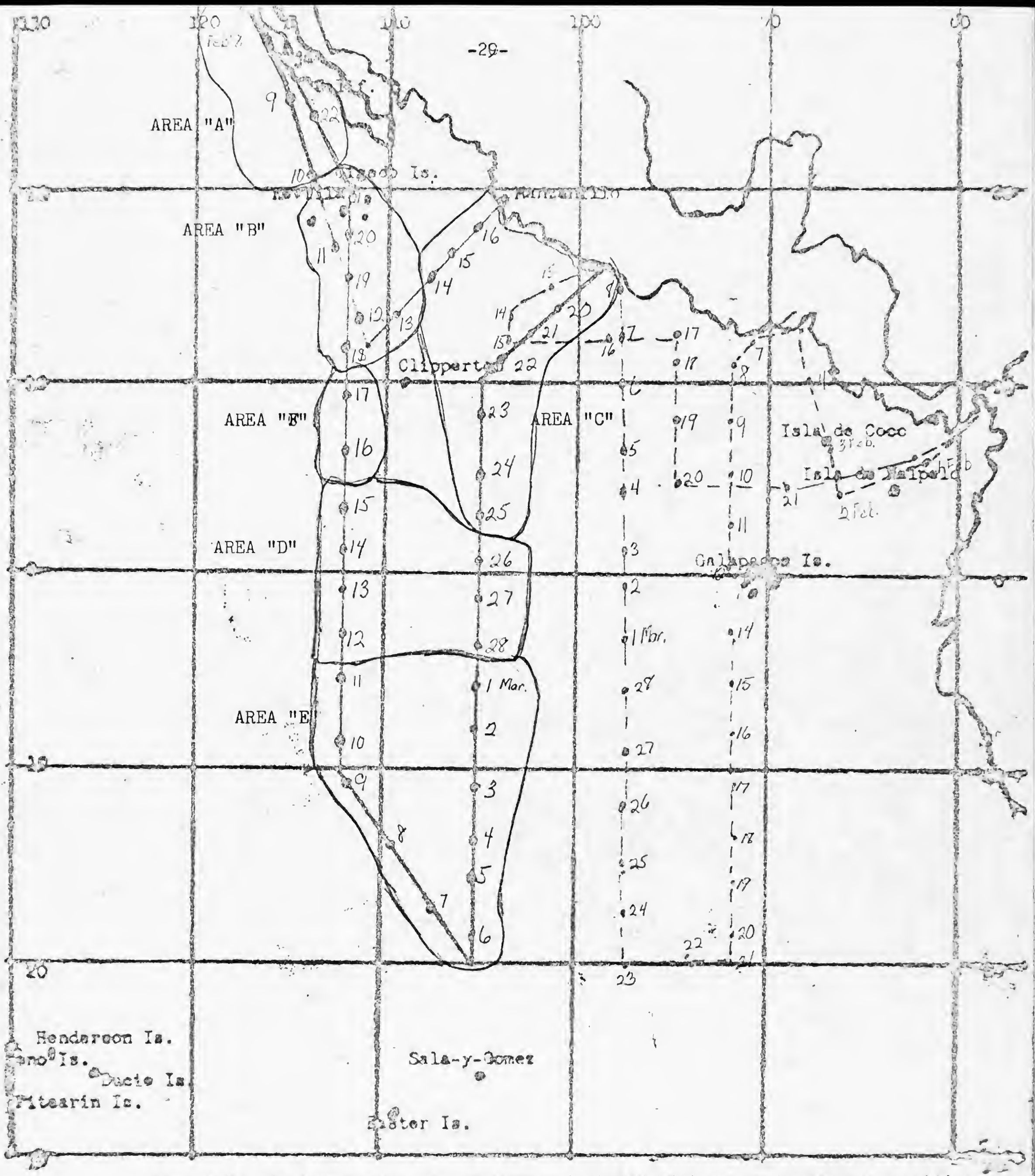


Figure 2. Cruise Tracks of ROCKAWAY and JORDAN with approximate noon positions.
- - - ROCKAWAY Cruise Track
_____ JORDAN cruise Track

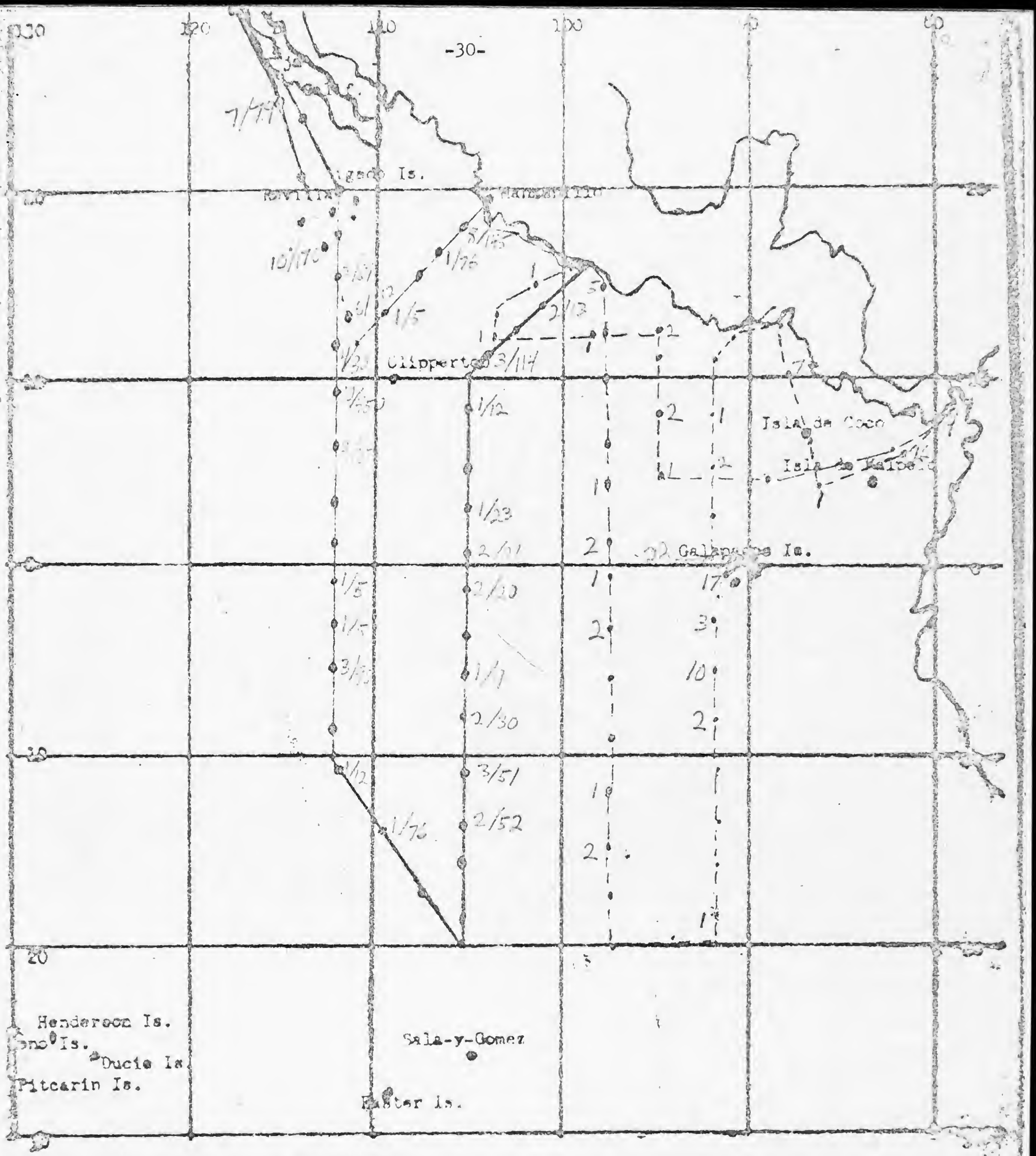


Figure 3. Flock Distribution.
No. Flocks/No. of Birds

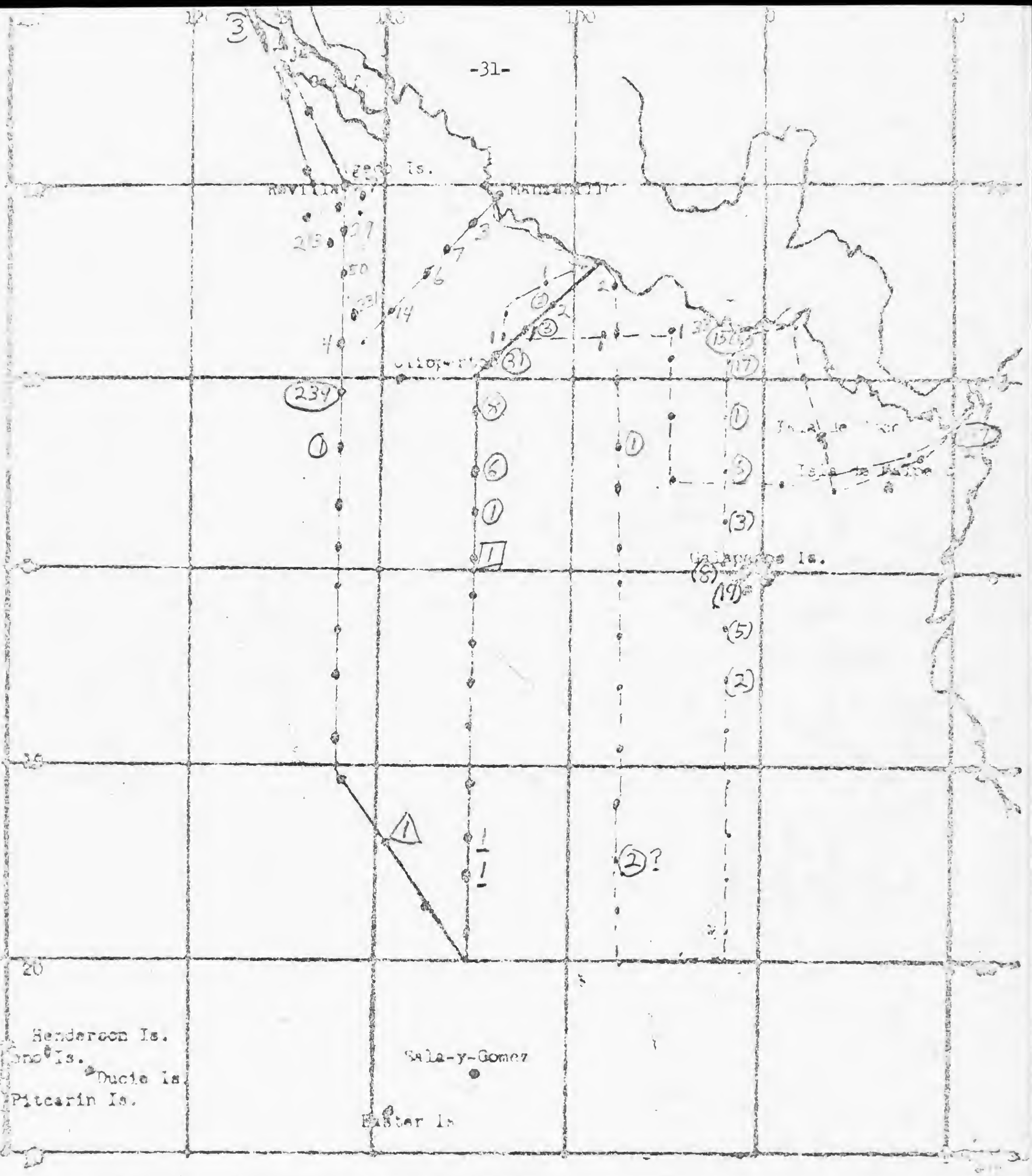


Figure 4. Distribution of the Genus Puffinus.
Black-vented Shearwater= ↕
Wedge-tail Shearwater= ①
Pale-footed Shearwater= △
Audubon Shearwater=(1)
Townsends Shearwater= !
Slenderbill Shearwater= ⊥
Christmas Shearwater= [1]

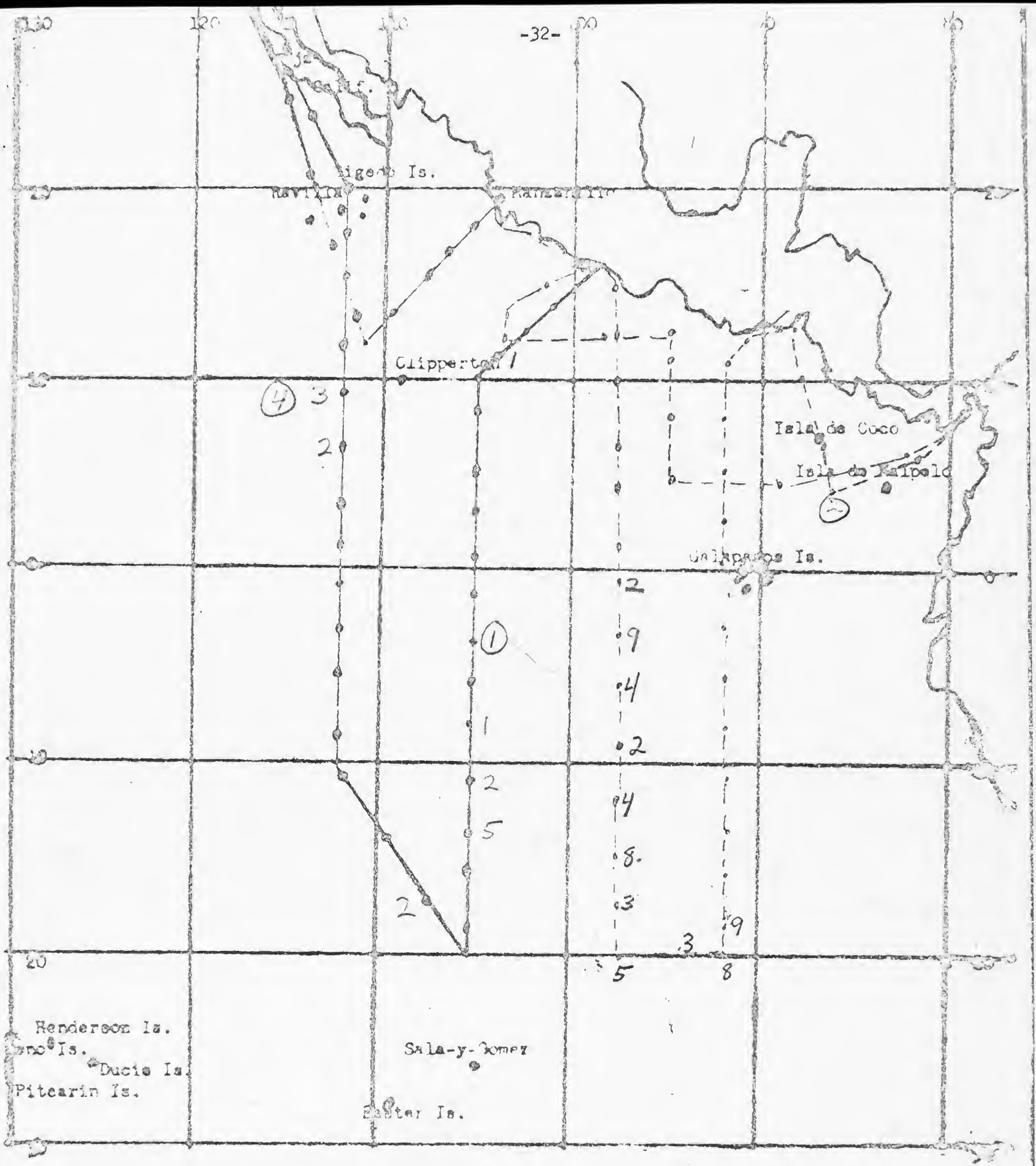


Figure 5. Dark-rumped Petrel - ①
Juan Fernandez Petrel - 1

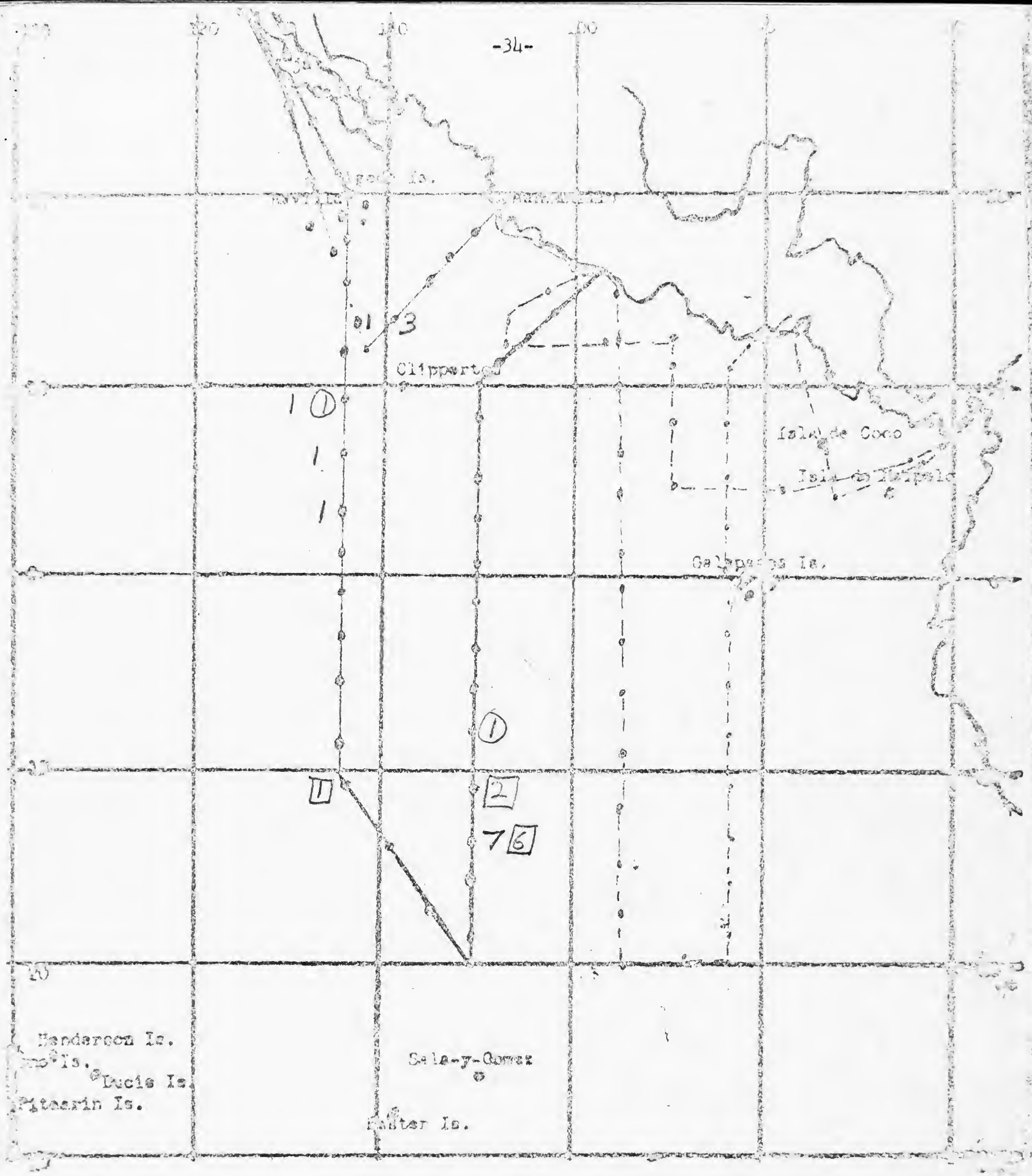


Figure 6. Kermadec Petrel - 1
Tahiti Petrel - (1)
Murphy's Petrel - [1]

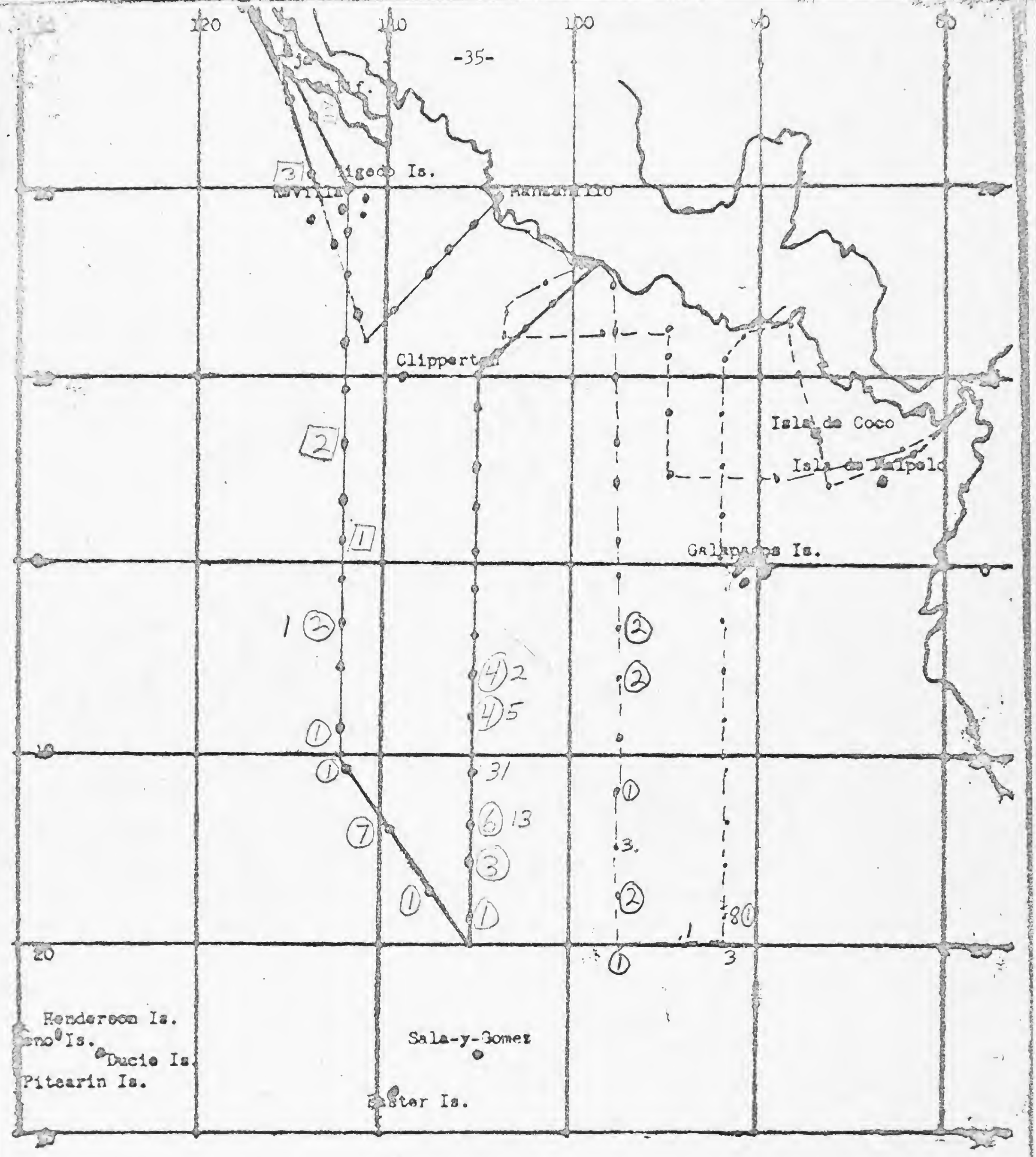


Figure 7. Cook Petrel - [1]
White-winged Petrel - /
Black-winged Petrel - (1)

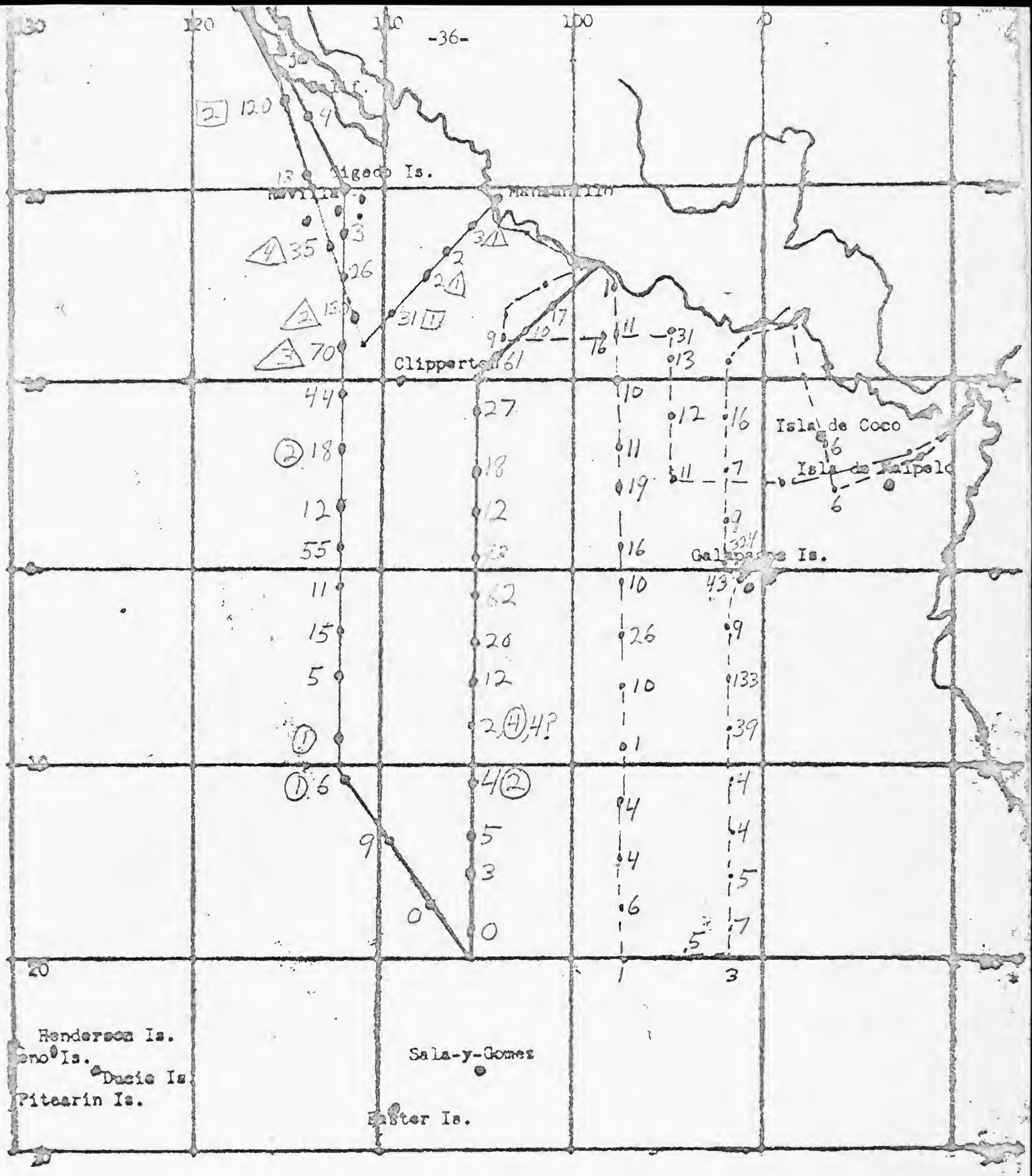


Figure 8. Storm Petrel Distribution
Leach and White-rumped Storm Petrel sp.- 2
Ashy Petrel - [2]
Least Petrel - △2
White-throated Petrel - (2)

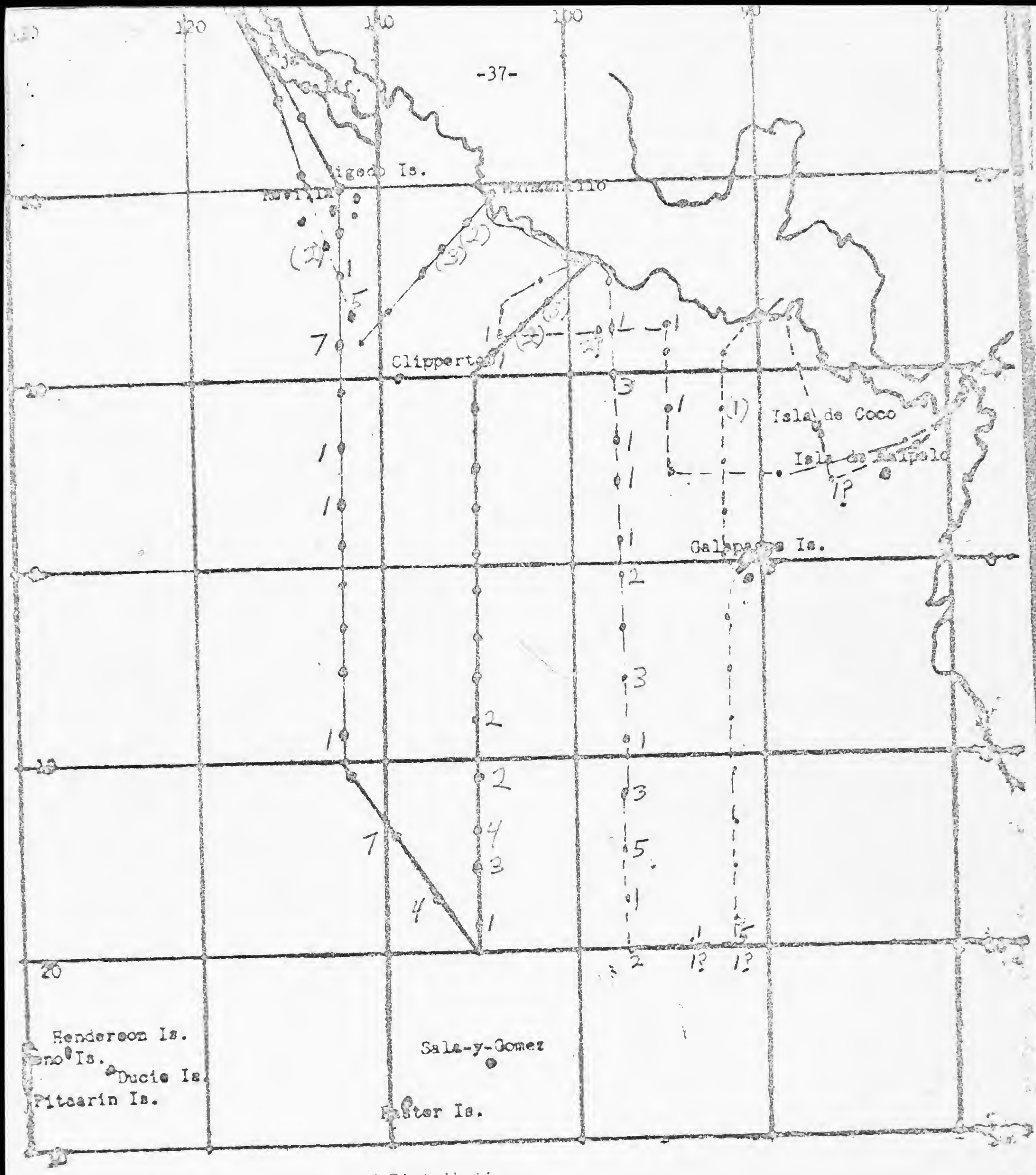


Figure 9. Tropicbird Distribution
Red-tailed Tropicbird= 1
Red-billed Tropicbird=(1)
White-tailed Tropicbird=1?

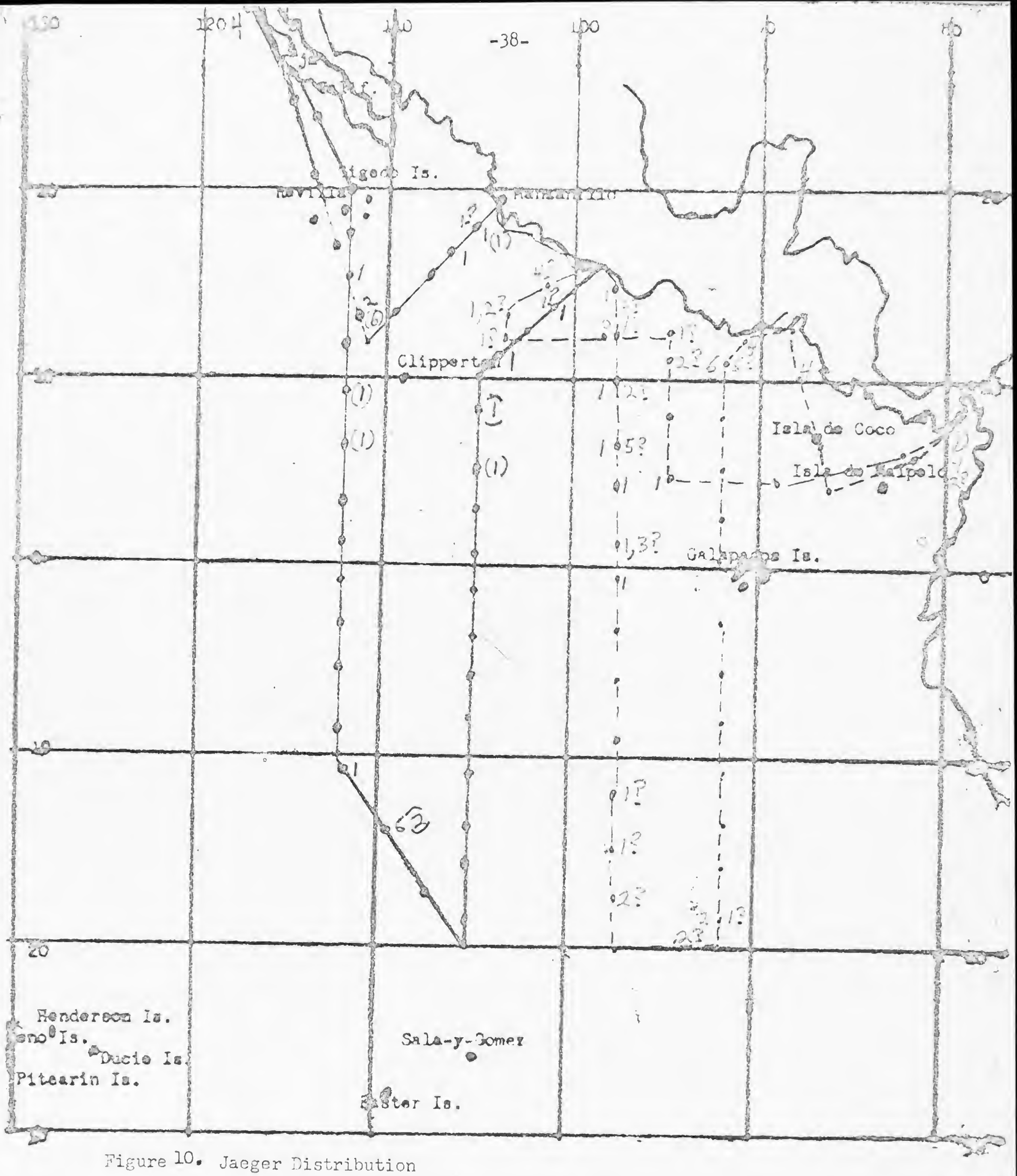


Figure 10. Jaeger Distribution
Pomarine Jaeger= 1
Parasitic Jaeger= (1)
L.-tailed Jaeger= I
Jaeger sp.?= 1?
Skua= ⓢ

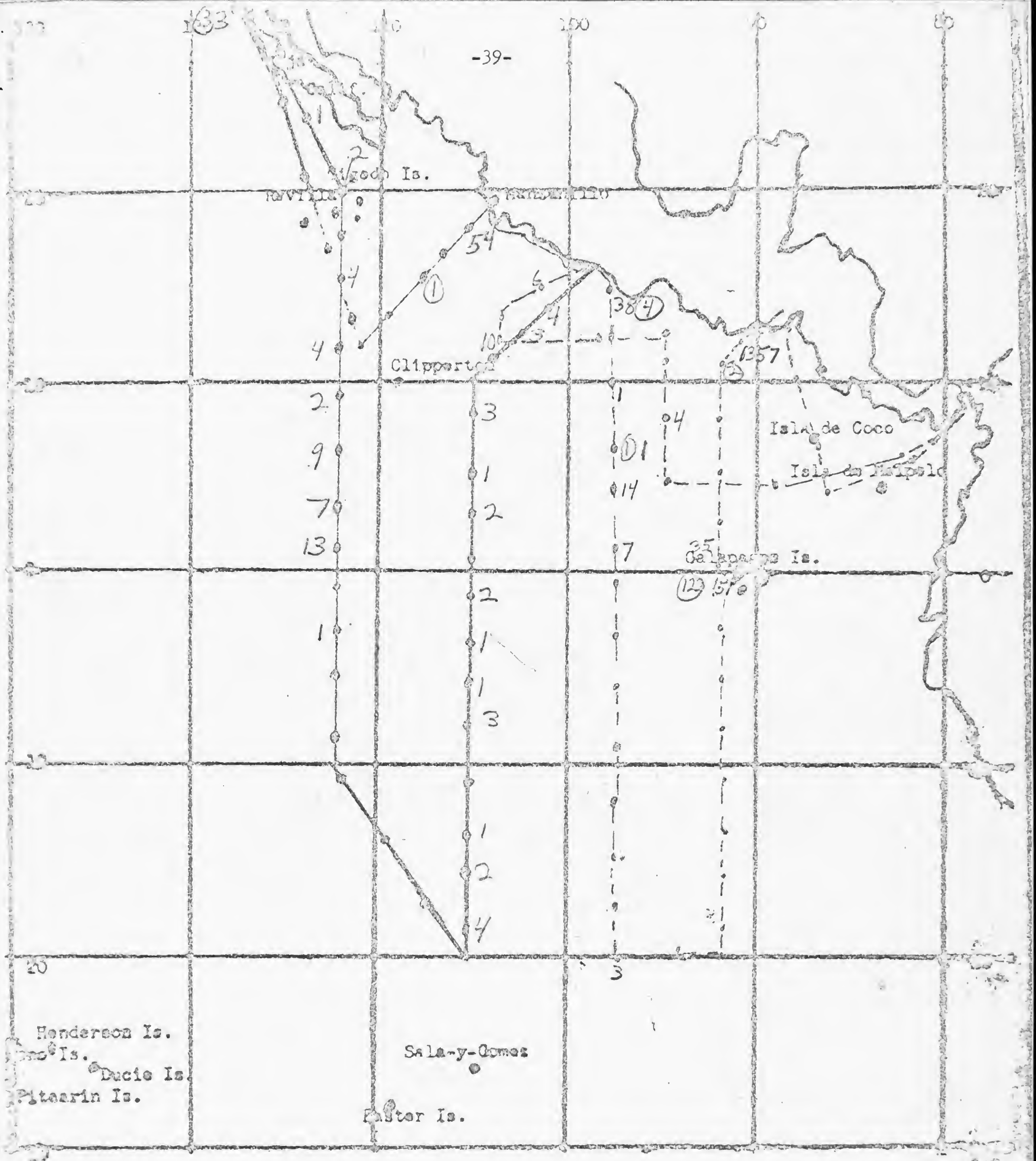


Figure 11. Red Phalarope and Phalarope sp. - 1
Northern Phalarope - (1)

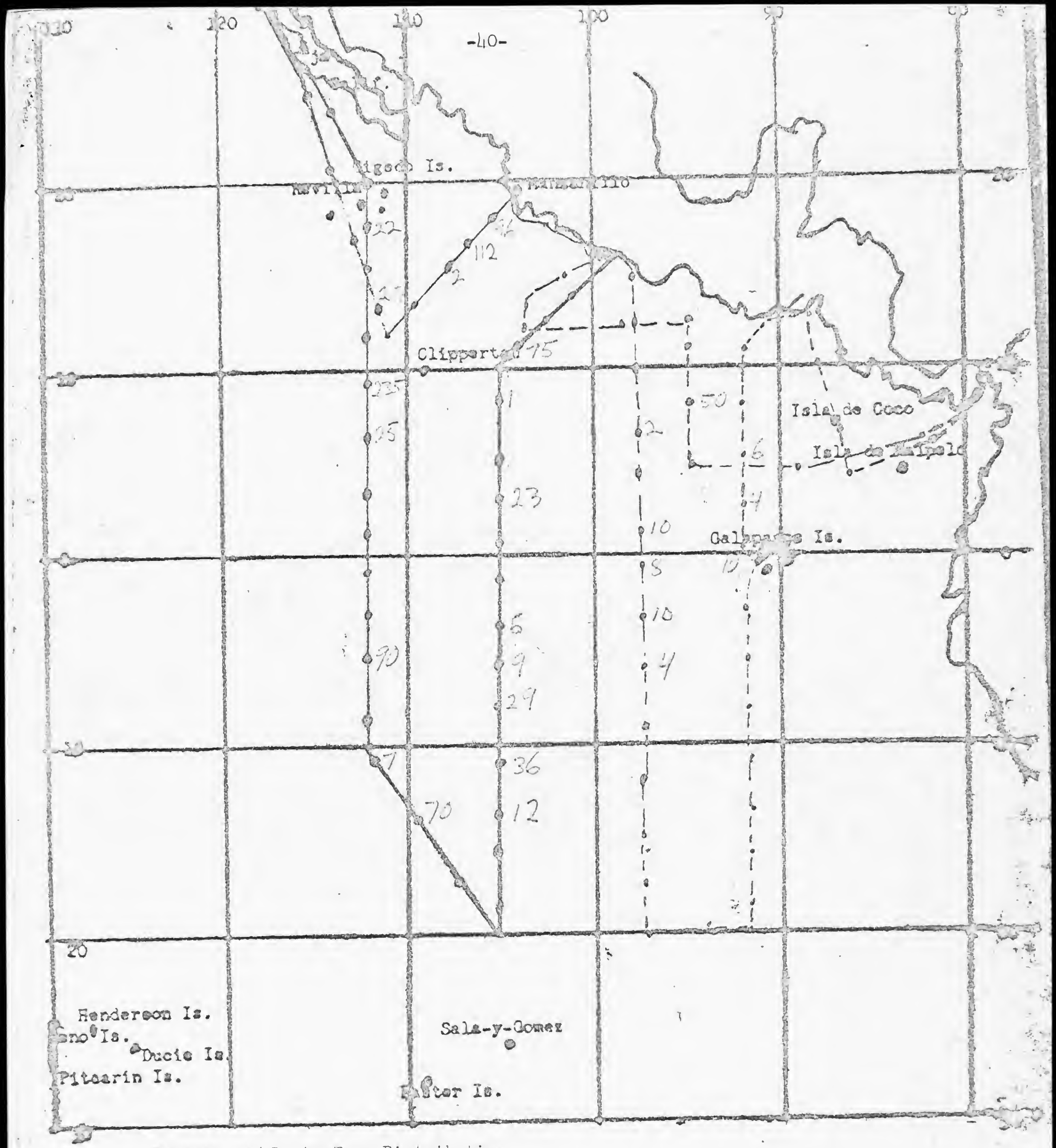


Figure 12. Sooty Tern Distribution

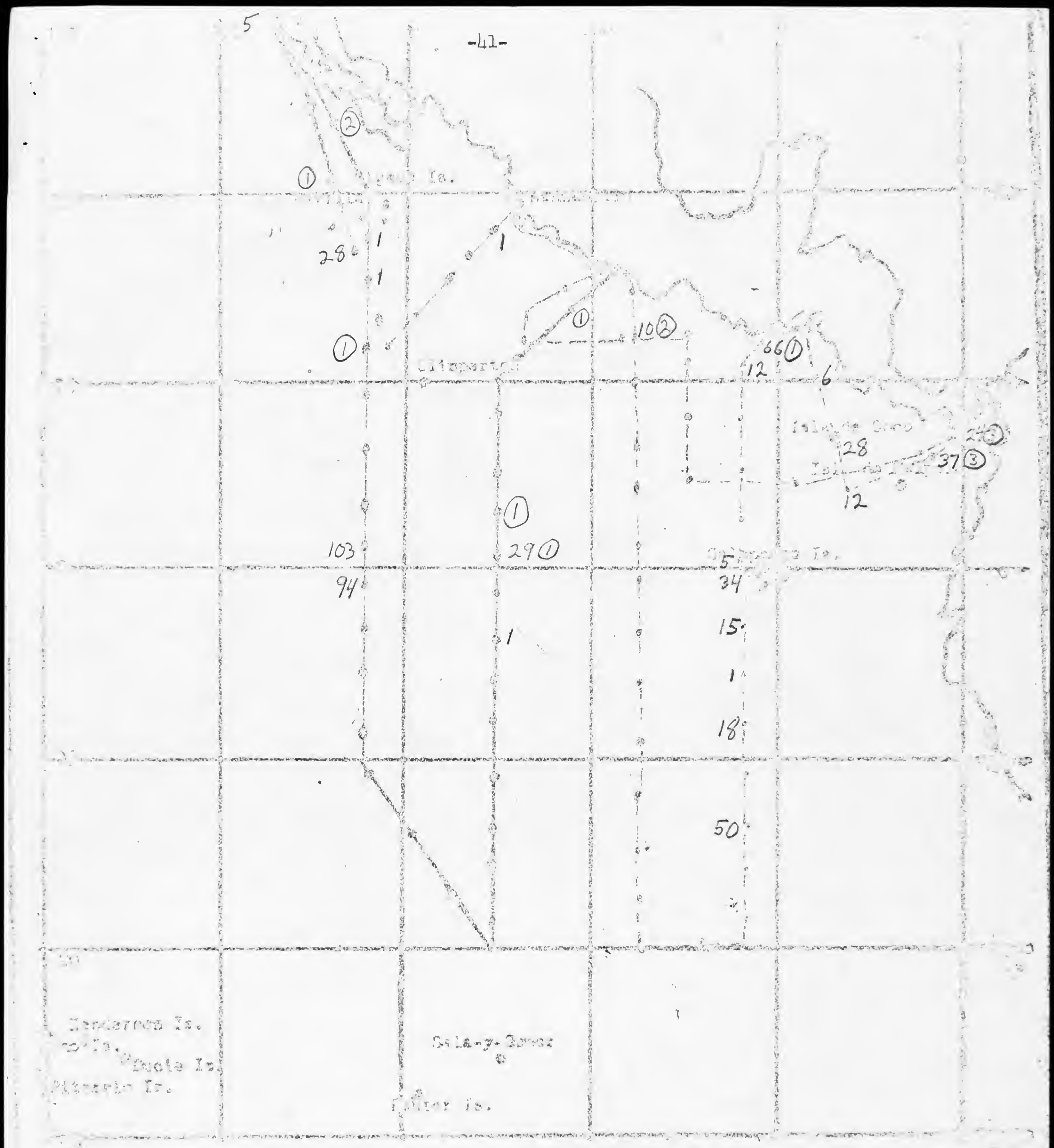


Figure 13. Whales and porpoise - /
Turtles - (1)

APPENDIX A.

Scientists: For SCRIPPS Cruise No. 9.

Dr. A. Longhurst (cruise leader).
R. Owen (assistant cruise leader).

APPENDIX B.

Station Types - Extracted from manual observations.

Primary - A - full hydrographic and biological (noon and midnight).
Secondary - B - limited hydrographic and biological
Limited - C - limited hydrographic.

Station A. (Twice daily at approximately noon and midnight)
Secchi disc.....5 min.
TDS to 1000 m..... 30 min.

Hydrocast to 1000 m.....60 min.
Oblique and surface net tow.....30 min.
Plankton recorder.....30 min.
Micronekton net.....60 min. (underway, night)

Lexan bottles included in hydrocast for chlorophyll, noon and midnight, and for productivity, noon only. Phytonet noon and midnight, no station time required.
Dipnetting at midnight station only.

Station B. (Twice daily at approximately 0600 and 1800 local time)
TDS to 500 m.....15 min.
Secchi disc.....5 min.
Hydrocast to 500 m.....25 min.
Oblique and surface net tows.....30 min.

Station C. (Three hourly intervals daily)
XBT or BT.....0 or 2 min.

APPENDIX C.

Coastal Observations II.
Baja California March 23 and 24.

March 23 - Cedras Island

Birds

Black-vented Shearwater - 4000±
Pink-footed Shearwater - 50±
Sooty Shearwater - 40±
Brandt Cormorant - 500±
Brown Pelican - 100±
California Gull - 200±
Herring Gull - 3000±
Western Gull - 3000±
Heerman Gull - 10
Royal Tern - 15

Mammals

White-sided Porpoise Delpinus - Sea Lions

March 24 - Ensenada - Los Coronodas

Birds

Sooty Shearwater - 200-±
Black-vented Shearwater - 100±
Pomarine Jaeger - 20
Brandt Cormorant - 300±
Pelagic Cormorant - 10
Black Brant - 25
Herring Gull - 50
California Gull - 30
Western Gull - 100

Mammals

Grey Whales - 20

APPENDIX D.

Coastal Observations I., Manzanillo and Acapulco
February 19.

Birds

Red Phalarope - 3000±
Brown Booby - 1000±
Red-billed Tropicbird - 400±
Pomarine Jaeger - 50± (only 1 dark adult)
Laughing Gulls - 50±
Common Terns - 20±
Townsend Shearwater - 1

Mammals

White-sided Porpoise - Delphinus

APPENDIX E.

Rocko Partida
March 20, 1967

Rocko Partida is a rock about 110 feet high, 150 feet long, and 75 feet wide, jutting abruptly out of the Pacific at about 18°55'N, 112°04'W. Birds probably breeding on the island are: Common Noddy (300±), Blue-faced Booby (20±), Leach's Storm Petrel, Townsend's Shearwater, and possibly Sooty Terns (a swirl of about 50 birds with courtship flight was observed). Six Magnificent Frigatebirds roosted on the island.

Date 4 March Ship _____ (_____) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0602 Position: Lat. _____, Long. _____

Sunset: Time 1823 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 157

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1. 0900 - 0530			
2. 1000 1225			
3. 1600 - 1720			
4. 2100 0105			
5.			

1 3 0
2 2
1 2 0
3
9

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			19	11		
0200	12 53	104 56				
0300						
0400	13 15	104 56				
0500	13 15	56				
0600	13 20	56				
0700	30	57				
0800	40	57				
0900	50	58				
1000	14 00	104 58				
1100						
1200	14 00	58				
1300	06	58				
1400	10	58				
1500	20	59				
1600	14 36	105 00				
1700	36					
1800	44					
1900	50					
2000	04					
2100	15 15	104 59				
2200						
2300						
2400						

Date 5 March Ship ________ (____) Cruise No. ____

Organization ________ Recorder ________

Sunrise: Time 0603 Position: Lat. ________, Long. ________

Sunset: Time 1822 Position: Lat. ________, Long. ________

Miles travelled from 0000 hours to sunrise = ________ }
Miles travelled from sunrise to sunset = ________ } 159
Miles travelled from sunset to 2400 hours = ________ }

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0500 - 0640			
2.				
3.	1030 - 1310	=	16°35'	104°56'
4.	1715	1825 =	1723	10453
5.	2230	0045	1800	105°00'

16

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300	1532	104 58				
0400						
0500	15 59	104 58				
0600	59	58				
0700	1603	55				
0800	12	57				
0900	21	57				
1000	30	57				
1100	16 35	104 56				
1200						
1300	16 35	104 56				
1400	45	55				
1500	57	54				
1600	17 09	53				
1700	21	53				
1800	1723	104 53				
1900						
2000						
2100						
2200						
2300	1800	105 00				
2400						

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Date 6 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0600 Position: Lat. _____, Long. _____

Sunset: Time 1823 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 165

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0445	0615	1844	10503
2.				
3.	1015	1325	1929	10505
4.	1700	-2240		
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			18	11		
0200						
0300						
0400						
0500						
0600	1844	10503				
0700	53					
0800	1904					
0900	15					
1000	26					
1100	1929	10505				
1200	1	1				
1300						
1400	1933					
1500	1938	10502				
1600	41	05 00				
1700	2000	104 58				
1800						
1900						
2000						
2100						
2200		104 57				
2300		01				
2400		05				

Date 7 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0600 Position: Lat. _____, Long. _____

Sunset: Time 1821 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 188

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100		15	33	11		
0200		12				
0300		09				
0400	19 57	36				
0500	58	43				
0600	49	50				
0700	40	105 57				
0800	31	106 03				
0900	22	106 10				
1000	18 13	106 17				
1100	18 04	106 24				
1200	17 55	106 31				
1300						
1400						
1500	17 31	106 45				
1600						
1700	17					
1800	17 05	107 05				
1900	56	10				
2000	50	15				
2100	16 42	107 31				
2200						
2300						
2400	16 19	107 41				

Date 8 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0610 Position: Lat. _____, Long. _____

Sunset: Time 0834 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 247

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			33	10		
0200						
0300	15 52	107 57				
0400	42	106 04				
0500	33	10				
0600	15 23	108 17				
0700	18	25				
0800	10	39				
0900	15 01	108 33				
1000	14 52	42				
1100	43	47				
1200	14 34	108 52				
1300	13	109 04				
1400	16	109 12				
1500	14 05	109 20				
1600	14 00	13				
1700	13 53	30				
1800	13 46	109 35				
1900	38	40				
2000	30	45				
2100	13 23	109 49				
2200						
2300						
2400	12 52	110 11				

Date 9 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0624 Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 254

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			33	11		
0200						
0300	12 28	110 26				
0400						
0500						
0600	1208	110 25				
0700	11 52	1 51				
0800	44	57				
0900	11 35	111 04				
1000	26	10				
1100	17	15				
1200	11 08	111 20				
1300	11 00	25				
1400	10 53	30				
1500	10 45	111 34				
1600	36	39				
1700	27	43				
1800	10 19	111 49				
1900						
2000	10 12	112 00				
2100						
2200						
2300						
2400						

Date 10th Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0632 Position: Lat. _____, Long. _____

Sunset: Time 1845 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____ } 156

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	9th 2025	02F	10.00S	112°20W
2.	0600-735			
3.	1100 -1315			
4.	1645 1900			
5.	2245	002F		

Hourly Positions:

Time	Latitude	Longitude	~~Wind~~ Dir.	~~Wind~~ Sp.	Wave Dir.	Wave Hgt.
0100			00	11		
0200						
0300						
0400	9 41	112 01				
0500	30					
0600	9 20	112 02				
0700	9 20	01				
0800	15	01				
0900	08 04	00				
1000	06 53					
1100	8 42	111 59				
1200		59				
1300	8 42	59				
1400	35					
1500	28					
1600	15					
1700	8 05	11202				
1800						
1900						
2000						
2100						
2200						
2300	7 35	112 03				
2400						

Date 10th Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0634 Position: Lat. _____, Long. _____

Sunset: Time 1842 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 147

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0530	0655		
2.	1100	1355		
3.	1700	1830		
4.	2130	0225		
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			36	11		
0200						
0300						
0400						
0500						
0600	6 37	112 02				
0700	6 36					
0800	6 26					
0900	6 16					
1000	66					
1100	5 55					
1200						
1300						
1400	5 55	03				
1500		03				
1600		03				
1700	0526	112 03				
1800						
1900						
2000						
2100						
2200	4 52	03				
2300						
2400						

Date 12 th March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0634 Position: Lat. _____, Long. _____

Sunset: Time 1842 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 135

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0600 - 0725		3 5 1 5	
2.	1030 1340		3 1	
3.	1700 - 1815		2	
4.	2130 0055		11	
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			00	11		
0200						
0300						
0400	4 38	112 04				
0500	4 27	04				
0600	4 12	04				
0700						
0800						
0900						
1000						
1100	03 46	112 07				
1200						
1300	03 40	112 07				
1400	36					
1500	03 25	112 07				
1600	03 14	07				
1700	03 03	07				
1800	03					
1900	02					
2000	02					
2100	37					
2200	2 32	05				
2300						
2400						

Date 13 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0635 Position: Lat. _____, Long. _____

Sunset: Time 1841 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____ } 147

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0445	0615	1	
2.	1015	1315	15	
3.	1630	1830	3	
4.			2	
5.	21-0010		3	

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600	153	11203				
0700						
0800						
0900						
1000						
1100	01 14	03				
1200						
1300	01 14	03				
1400	01 06					
1500	00 57					
1600	00 48					
1700	00 44	02				
1800						
1900	0 40	11200				
2000	0 31	1				
2100	0 20	11200				
2200						
2300						
2400						

Date 14 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0634 Position: Lat. _____, Long. _____

Sunset: Time 1840 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 150

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0430	0605	1	
2.	1115	1420	3	
3.	1745	1905	1	
4.	2230	-0035	1	
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			00	14		
0200						
0300	0 08N	111 59				
0400						
0500						
0600	0 25	57				
0700	34	51				
0800	44	51				
0900	54	48				
1000	1 04	50				
1100	1 14	50				
1200	1 16	112 00				
1300						
1400	1 16	1200				
1500	1 26					
1600	38					
1700	50	3				
1800	2 03	112 04				
1900						
2000						
2100						
2200						
2300	2 36	112 06				
2400						

Date 15 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0634 Position: Lat. _____, Long. _____

Sunset: Time 1841 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 182

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0500 - 0625			
2.	1100 - 1310			
3.	1630 1755			
4.	21000010			
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			010	10		
0200	3 02	112 03				
0300	09	01				
0400	17	111 59				
0500	03 24	111 58				
0600		58				
0700	30	58				
0800	42	59				
0900	54	59				
1000	06	00				
1100	4 18	11200				
1200						
1300	4 18					
1400	26					
1500	4 36	11200				
1600	48					
1700	4 55	11200				
1800	56					
1900	04					
2000	21					
2100	5 30	11202				
2200						
2300						
2400						

Date 16 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0635 Position: Lat. _____, Long. _____

Sunset: Time 1841 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 165

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1. 0400-0515		1	
2. 1000 1330		3 5	
3. 1700 1820		1 5	
4. 2230 0100		1	
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			00	10		
0200	55 1	112 01				
0300						
0400	6 12	112 01				
0500	" "	" "				
0600	6 21					
0700	31	07				
0800	2	03				
0900	51	03				
1000	7 01	112 04				
1100						
1200						
1300	01	04				
1400	08	02				
1500	7 19	112 00				
1600	30					
1700	7 41	111 59				
1800	41					
1900						
2000						
2100						
2200						
2300	8 04	112 02				
2400						

Date 17 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0634 Position: Lat. _____, Long. _____

Sunset: Time 1840 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 167

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0430	0550	1	
2.	1000 -	1315	1-5	
3.	1700	1810	3	
4.	2230	0100	1	
5.			1-5	

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			010	10		
0200						
0300						
0400						
0500	9 07	112 16				
0600	9 09	112 16				
0700	14	15				
0800	24	14				
0900	38	13				
1000	9 48	112 13				
1100						
1200						
1300	48	13				
1400	54	09				
1500	10 04	112 05				
1600	15	03				
1700	10 25	112 02				
1800		02				
1900	38	01				
2000	42	00				
2100	51					
2200	00					
2300	11 09	111 58				
2400						

Date 18 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0634 Position: Lat. _____, Long. _____

Sunset: Time 1840 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____ } 172

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0500 - 0620		1	7
2.	1100 1340		1 5	8
3.	1500 1610		2 5	
4.	2200 0230		1	
5.			2	

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200			00	10		
0300						
0400						
0500	11 51	111 54				
0600	.1	54				
0700	59	54				
0800	09	53				
0900	19	52				
1000	29	52				
1100	12 39	111 51				
1200						
1300		51				
1400	43	54				
1500	12 49	110 58				
1600						
1700	12 58					
1800	13 10	58				
1900	13 22	58				
2000	13 34	58				
2100	46	58				
2200	13 58	111 59				
2300						
2400						

Date 19 March 1967 Ship Jordan ( ) Cruise No. ____

Organization ____ Recorder ____

Sunrise: Time 0634 Position: Lat. ____, Long. ____

Sunset: Time 1838 Position: Lat. ____, Long. ____

Miles travelled from 0000 hours to sunrise = ____

Miles travelled from sunrise to sunset = ____

Miles travelled from sunset to 2400 hours = ____ } 149

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0600	0730	2.5 1.5	
2.	1045	1355	3	1'
3.			1.5	
4.	1730	1845	1.5	
5.	2230	0055	1	

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200			36	00		
0300						
0400	14 15	111 58				
0500	25					
0600	14 37	111 57				
0700	41 5					
0800	46					
0900	50					
1000	15 00					
1100	15 07	111 57				
1200		"				
1300		"				
1400	15 08	57				
1500	20	57				
1600	32	60				
1700	44	62				
1800	15 56	112 03				
1900						
2000						
2100						
2200						
2300	16 37	112 02				
2400						

Date 20 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0632 Position: Lat. _____, Long. _____

Sunset: Time 1839 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 185

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0430 - 550		1 1 5	
2.	1100 1400		3 1 5	7
3.	1910 2045			
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200			36	10		
0300						
0400						
0500	17 26	112 01				
0600	17 32	01				
0700	37	06				
0800	46	5				
0900	55	58				
1000	04	57				
1100	18 13	111 56				
1200						
1300						
1400	18 13	56				
1500	24	58				
1600	18 35	112 00				
1700	44	01				
1800	53	01				
1900	19 02	7 104				
2000	19 04	112 05				
2100						
2200	19 14	112 10				
2300						
2400						

Date 21 March 67 Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0632 Position: Lat. _____, Long. _____

Sunset: Time 1839 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 158 214

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			35	07		
0200				10		
0300						
0400						
0500						
0600	19 46					
0700	19° 56	112 23				
0800	20 06	25				
0900	16	27				
1000	26	29				
1100	36	31				
1200	20 46	112 33				
1300	55	35				
1400	21 05	38				
1500	21 14	40				
1600	24	43				
1700	33	45				
1800	43	48				
1900	52	50				
2000	22 02	53				
2100	11	55				
2200	21	58				
2300	30	113 00				
2400	40	03				

Date 22 March 67 Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0632 Position: Lat. _____, Long. _____

Sunset: Time 1837 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ 3244

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	22 49	113 05	35	10		
0200	59	08				
0300	23 08	11				
0400	18	14				
0500	27	16				
0600	37	19				
0700	46	21				
0800	56	24				
0900	24 05	26				
1000	15	29				
1100	24	33				
1200	24 33	113 37				
1300	43	39				
1400	52	42				
1500	25 02	44				
1600	11	47				
1700	21	49				
1800	30	52				
1900	40	55				
2000	49	57				
2100	59					
2200						
2300						
2400						

Date 2-7-6? Ship ______ (____) Cruise No. ______

Organization ______ Recorder ______

Sunrise: Time ______ Position: Lat. ______, Long. ______

Sunset: Time ______ Position: Lat. ______, Long. ______

Miles travelled from 0000 hours to sunrise = ______

Miles travelled from sunrise to sunset = ______

Miles travelled from sunset to 2400 hours = ______

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Jordan 12

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600						
0700						
0800						
0900						
1000						
1100						
1200						
1300						
1400						
1500						
1600						
1700						
1800						
1900						
2000						
2100						
2200	31° 57.2'	118° 44.8				
2300	31° 45'	118° [illegible]				
2400	31° 34.2'	118° 58.6'				

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Date 2-8-67 Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	31°04.8'	116 55.4'				
0200	31 13.5	116 50.1'				
0300	31°01.8'	116°42'				
0400	30°44.8'	116°43.8'				
0500						
0600	30°21	116° 38'				
0700	30 14	30				
0800	30 03	37				
0900	29 52	33				
1000	29 45	30				
1100	29 36	17				
1200	29°27.4'	116°13.8'				
1300	29 20	16 11				
1400	29 11.5'	116° 2.5'				
1500	29° 2.5'	116° 4.2'				
1600	28 51	01				
1700	28 44.5'	115°52.8'				
1800	28° 32.5'	115° 52.1		L.F.	Inside	W
1900	28 26	50				
2000	28° 18.5'	115°48.4'				
2100	28° 5.2'	115° 46'		L.F.	Inside	NW
2200	27° 58'	11° 44.5'		L.F.	Inside W	12 Miles N
2300	27° 46'	115° 41.2'				
2400	27°36.1'	115° 38.5'				

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Date 2-9-67 Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	27°25.6'	115°36'				
0200	27°18.7'	115°32.5'				
0300	27°7.6'	115°30.6'				
0400	26°55'	115°27.2'				
0500	26°43.2'	115°26.4'				
0600	26°33.3'	115°21'				
0700	26°29.4'	115°18.2'				
0800	26°20.8'	115°15'				
0900	26°8.8'	115°12'				
1000	26°2.7'	115°10'				
1100	25°54.8'	115°8.8'				
1200	25°43.3'	115°11.4'				
1300	25°34'	115°8.1'		Obs Fix	1.5 Miles	N 20°
1400	25°26'	115°6.5'				
1500	25°18.3'	115°4.3'				
1600	25°12.7'	115°2'				
1700						
1800	24°57.6'	114°55.6'				
1900	24°47.6'	114°52.2'				
2000	24°37.8'	114°48.8'				
2100	24°31.2'	114°41.5'				
2200	24°17.5'	114°45.0'				
2300	24°6.0'	114°42.5'				
2400	23°56.0'	114°40.4'				

Date 7-10-67 Ship R/V David Starr Jordan (____) Cruise No. 1

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	23° 26.0	114° 40.0				
0200	23° 08.9	114° 37.4				
0300	23° 57.1	114° 24.6				
0400	22° 47.5	114° 32.5				
0500	22° 39.1	114 31.0				
0600	22° 30.0	114° 27.0				
0700	22° 22.1	114° 25.1				
0800	22° 09.1	114° 23.5				
0900						
1000		114° 18.5				
1100						
1200	21° 24.0	114° 11.2				
1300						
1400						
1500						
1600	20° 45.1	114° 02.1				
1700	20 35.4	113.58				
1800	20° 29.1	113° 53.1				
1900		113 42				
2000						
2100	19 50.5					
2200						
2300						
2400						

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Date 2-11-67 Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	19 27'	113 38.5	11	10		
0200	19 24.2	113 32				
0300	19 12	113 21				
0400						
0500	18 58	113 25.2				
0600	18 42	113 34.8				
0700	18 11	23				
0800	18 1					
0900	17 52'	18				
1000	43	16				
1100	34	14				
1200	17 24	113 11				
1300	13	09				
1400	03	07				
1500	16 52	05				
1600	42	03				
1700	31	01				
1800	1620	112°57'				
1900	17	54				
2000	54	51				
2100	15 41	112 48				
2200	30	44				
2300	20	40				
2400	15 09	112 36				

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Date 12 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 253

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0000	1509	112 36	
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp. (Sfc)	Wave Dir.	Wave Hgt.
0100	14 59	36		11		
0200	14 50	35				
0300	14 40	112 35				
0400	30	33				
0500	20	31				
0600	14 10	112 29				
0700	14 00	26				
0800	13 50	23				
0900	13 40	112 20				
1000	13 30	17				
1100	13 20	14				
1200	13 17	112 11				
1300	13 05	09				
1400	12 53	07				
1500	12 41	112 04				
1600	12 31	02				
1700	12 21	01				
1800	12 12	112 00				
1900	12 20	111 51				
2000	12 27	111 42		00		
2100	12 37	111 42				
2200	12 47	111 42				
2300	12 57	111 42				
2400	12 57	111 42				

Date Feb 13 Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 167

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	12 27			0		
0200	12 27			1		
0300	12 27			1		
0400	12 36	111 30		1		
0500	12 46			10		
0600	12 56	111 04				
0700	13 01	111		1		
0800	13 07	110 58		1		
0900	13 12	110 5[illegible]		1		
1000	13 18	110 5[illegible]		1		
1100	13 23	110 48		9		
1200	[illegible]	[illegible]		9		
1300	13 23	110 [illegible]		1		
1400	27	110 42		10		
1500	32	110 36		1		
1600	38	110 30		1		
1700	44	110 24		1		
1800	50	110 18		1		
1900	13 57	110 12		9		
2000	13 51	110 [illegible]		9		
2100				10		
2200				1		
2300	14 15	109 30		9		
2400				9		

0235

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Date 14 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

152 kHz

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	~~Wind~~ Sp. (Ship)	Wave Dir.	Wave Hgt.
0100	14 15	107 50		7		
0200	14 15	109 30				
0300	1419					
0400	28					
0500	37					
0600	14 46	109 24				
0700	51	109 20				
0800	56	109 16				
0900	1501	109 12				
1000	1507	109 07				
1100	1509	109 02				
1200	1509	108 57				
1300	1509	108 51				
1400	15 09	108 53				
1500	16	49				
1600	23	41				
1700	1530	108 34				
1800	1533	108 30				
1900	1537	108 30				
2000						
2100						
2200	1552	108 22				
2300						
2400						

1045 / 1405 / 1715 / 1910

Date 15 Feb Ship _____ (_____) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 132

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100				6		
0200						
0300						
0400						
0500						
0600	16 15	107 50				
0700	1	1				
0720 0800	16 19	47				
0900	16 27	37				
1000	16 35	27				
1100	16 43	107 18				
1200	|	|				
1300	|	|				
1400	16 43	107 18				
1500	49	11				
1600	54	03				
1700	17 00	56				
1725– 1800	1702	106 54				
1850 1900	1703	106 49				
2000	10	37				
2100	17	27				
2200	17 23	106 17				
2300	|	|				
2400	|	|				

Date 16 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 162

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4. 0830		1709	10524
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100				8		
0200						
0300	1738	105 56				
0400	44	46				
0500	17 54	105 37				
0600	1	1				
0625 — 0700	17 55	105 32				
0800	18 05	26				
0900	18 12	20				
1000	18 19	14				
1100	18 25	105 09				
1200	|	|				
1300	|	|				
1400	|	|				
1500	18 26	105 09				
1600	31	01				
✓1700	37	53				
1800	43	45				
1900	49	37				
1915 2000	18 56	104 30				
2100						
2200						
2300						
2400						

Date 20 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0607 Position: Lat. _____, Long. _____

Sunset: Time 1753 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 204

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.	0530-55	1530	101 06	
3.	1730	1850	14 29	101 08
4.	2200—0110			
5.				

1636 100 07

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100				15	230	
0200						
0300						
0400						
0500						
0600	15 30	101 06				
0700	15 29	101 06				
0800	15 21	15				
0900	15 13	101 24				
1000	15 05	34				
1100	14 56	101 43				
1200	"	"				
1300	"	"				
1400	14 46	101 43				
1500	38	56				
1600	28	102 07				
1700	18	102 05				
1800	14 08	102 08				
1900	14 18	27				
2000	14 28	17				
2100	14 38	27				
2200	14 03	102 37				
2300	"	"				
2400	"	"				

195

Date 21 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0612 Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ 3158

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100				07		
0200						
0300						
0400						
0500	13 36	103 09				
0600	32	14				
0700	28	20				
0800	13 25	103 25				
0900	18	32				
1000	13 10	103 42				
1100	"	"				
1200	"	"				
1300	"	"				
1400	13 01	103 53				
1500	12 52	104 03				
1600	46	13				
1700	12 37	104 23				
1800	"	"				
1900	28	28				
2000	23	38				
2100	15	48				
2200	12 02	104 56				
2300						
2400	"	"				

0145 0145

Date 22 Feb Ship _____ (_____) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 181

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0515-0640	11	26	104 59 —
2.	1045	1335	10	24 10502 —
3.				
4.	2130	0310	9°	32' —
5.				

1.2
1 45 3
1 28

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600	11 26	104 59				
0700	11 23	59				
0800	13	05 00				
0900	03	105 01				
1000	53	02				
1100	10 44	105 02				
1200	1044					
1300	10 34					
1400	1036					
1500	10 25	105 01				
1600	10 17					
1700	10 08					
1800	01					
1900	54					
2000	09 47					
2100	37					
2200	09 32					
2300						
2400						

Date 23 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 144

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.	1745	1910	7°40	
5.	2245	0210	07°02'	

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600	09 00	105				
0700	08 52					
0800	08 44					
0900	08 36					
1000	08 28					
1100	08 20					
1200	"	"				
1300	"	"				
1400	08 20					
1500	08 10					
1600	7 59					
1700	07 49					
1800	07 40					
1900	07 40					
2000	30					
2100	07 20					
2200						
2300	07 02					
2400	"	"				

1440

Date 24 Feb 67 Ship _____ (_____) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 175

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0500-0635			
2.	1030	1310		
3.	1615	1750		
4.				
5.	2100	0300		

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300	6 52					
0400	40					
0500	6 27					
0600	6 27					
0700	6 23					
0800	6 13					
0900	6 03					
1000	5 53					
1100	5 48					
1200						
1300	5 41					
1400	36					
1500	22					
1600	5 08					
1700	5 04					
1800	01					
1900						
2000						
2100	4 28					
2200						
2300						
2400						

Date 25 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 136

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0600	0720	-3 -1.5	
2.	1030	1410	3.5	
3.				-11
4.	1730	1850	-1	
5.	2200	0045	-2	

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	|					
0200	|					
0300	|					
0400						
0500						
0600	4 06					
0700	4 06					
0800	58					
0900	3 47					
1000	3 37					
1100	3 31					
1200						
1300						
1400	3 31					
1500	3 21					
1600	3 07					
1700	2 53					
1800	2 46					
1900						
2000	2 32					
2100	2 21					
2200	2 12					
2300						
2400						

Date 26 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 165

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.	0430	-0600	1.5	
3.	1030	1430	4 1.6	
4.	1630	1750	3	
5.	2100	0155		

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300	1°49'	105.10				
0400						
0500						
0600	1 35					
0700	35					
0800	15					
0900	1 04					
1000	0 52					
1100	0 46					
1200	1					
1300	1					
1400	1					
1500						
1600	28					
1700	0 21					
1800	0 18					
1900						
2000	0					
2100	0°105					
2200						
2300						
2400						

Date 27 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 120

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.	545	0715	834's	104°59'
3.	1100	1305	1°14's	104°55'
4.	1730	1845	1°50	105
5.	2200	0010		

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600	0 34	104 59				
0700	0 34	104 59				
0800	0 44					
0900	54					
1000	1 04					
1100	1 14	104 58				
1200						
1300	1 14					
1400	22					
1500	30					
1600	38					
1700	46					
1800	1 54					
1900						
2000						
2100	2 24	105 00				
2200	2 36	105				
2300						
2400						

Date 28 Feb Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time _____ Position: Lat. _____, Long. _____

Sunset: Time _____ Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 162

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0430 - 0605		30° 2'	105 00
2.				
3.	1030	1355	3 56	104 53
4.	1700	1830		
5.	2130	0145	40 54	105 07

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300	2 50	105 00				
0400						
0500						
0600	3 02	105 00				
0700	14	104 53				
0800	27	104 46				
0900	3 39	104 39				
1000	49	49				
1100	3 56	104 53				
1200						
1300						
1400	357	53				
1500	4 06	10456				
1600	4 15	105 06				
1700	4 24	06				
1800	4 34	06				
1900	28	06				
2000	36	07				
2100	44	07				
2200	40 54	105 07				
2300						
2400						

Date 1 March Ship _____ (_____) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0606 Position: Lat. _____, Long. _____

Sunset: Time 1820 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 137

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2. 0600-0720			
3. 1100 - 1300			
4. 1700 - 1825			
5. 2230 0030		7°32'	104°59'

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			18	11		
0200						
0300						
0400	05 17	105 07				
0500	27					
0600	05 37	105 07				
0700	37	07				
0800	05 47	06				
0900	05 53	05				
1000	05 03	06				
1100	06 13	105 05				
1200		05				
1300	06 13	105 05				
1400	23	04				
1500	0632	105 04				
1600	42	05				
1700	0652	105 02				
1800						
1900						
2000						
2100						
2200						
2300						
2400						

Date 2 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0605 Position: Lat. _____, Long. _____

Sunset: Time 1820 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 165

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2. 0430 - 0620		8° 12'	104 57
3. 1030 - 1240		8 58	104 54
4. 1730	1845	9 42	104 50
5. 2130 - 0215		10° 08	104 47

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			15	11		
0200						
0300						
0400						
0500						
0600	8 12	104 57				
0700	16					
0800	8 27	56				
0900	38	56				
1000	49	55				
1100	08 58	104 54				
1200	58					
1300	9 1	53				
1400	15	52				
1500	17	51				
1600	25	50				
1700	33	51				
1800	9 42	104 50				
1900						
2000						
2100						
2200	10 08	104 47				
2300						
2400						

Date 3 March Ship _____ ( ) Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0604 Position: Lat. _____, Long. _____

Sunset: Time 1821 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____ } 145

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1. 0600 - 0720			
2.			
3. 1100 / 1335			
4. 1720 - 1840		12° 00'	104° 58'
5. 2200 0035			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100			18	11		
0200						
0300						
0400	10 24	104 46				
0500						
0600	10 44	104 44				
0700	44	44				
0800	48	46				
0900	01	47				
1000	12	49				
1100	11 23	104 51				
1200						
1300	11 23	104 51				
1400	27	53				
1500	11 35	104 54				
1600	45	56				
1700	55	57				
1800	12 00	104 58				
1900						
2000						
2100						
2200	12 20	10457				
2300						
2400						

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL: ☐ S/S ☐ M/V D.S. JORDAN

NAME OF CAPTAIN:

COUNTRY OF REGISTRY:

CALL SIGN:

VOYAGE — FROM: EASTPAC

VOYAGE — TO:

MONTH: February 1967

BAROMETER NO.

WB FORM 615-5 (8-63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (√)
TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
   d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. **Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with the letter X indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00-23 G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND: DIRECTION (True) (00-36)	WIND: SPEED (True knots) EST ☐ MEAS ☐	VISIBILITY (Coded) (90-99)	WEATHER: PRESENT (Coded) (00-99)	WEATHER: PAST (Coded) (0-9)	PRESSURE: CORRECTION — BAROMETER AS READ (in., mb., or mm.)	PRESSURE: DATE COMPARED — BAROMETER CORRECTED (mb.)	PRESSURE: CODED Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB (Degrees and tenths)	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD	CLOUDS (Coded): TYPE C_L (0-9)	CLOUDS (Coded): HEIGHT OF LOW CLOUD	CLOUDS (Coded): TYPE C_M (0-9)	CLOUDS (Coded): TYPE C_H (0-9)	COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0-9)	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths)	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (-if air colder than sea)	TEMPERATURE: DEW POINT (Whole degrees)	INDICATOR	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL INDICATOR	SEA/SWELL DIRECTION (00-36)	SEA/SWELL PERIOD (Coded)	SEA/SWELL HEIGHT (Coded)	SWELL INDICATOR	SWELL DIRECTION (00-36)	SWELL PERIOD (Coded)	SWELL HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_aT_a	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
					00																									0			1				1						
9	5	1	22	157	06	2	06	07	99	02	0	3014			16												180			0			1	33		2	1						
9		1	20	156	12	0	36	10	99	02	0	3008			15												18.2			0			1	33		2	1						
9			35	152	18	2	09	10	99	02	0	3013			20												18			0			1	33		2	1						
10			24	150	~~24~~ 00	0	33	10	99	02	0	3004			23												19.2			0			1	33		2	1						
10			17	147	06	0	27	10	99	02	0	3005			18												19.4			0			1	33		2	1						
10			12	145	12	0	01	10	99	02	0	3005			19												20.7			0			1	33		2	1						
10			08	142	18	0	03	07	99	02	0	3005			21												21.9			0			1	31		2	1						
11			04	140	~~24~~ 00	1	05	16	99	02	0	2995			20												22.3			0			1	31		2	1						
11			00	137	06	1	00	00	99	02	0	3000			20												23.3			0			1	31		1	1						
11			00	135	12	1	01	11	99	02	0	2998			20												23.8			0			1	31		1	1						
11			00	132	18	7	02	05	99	00	1	3004			23												24.4			0			1	32		2	1						
12			00	130	~~24~~ 00	8	05	06	98	03	2	2994			21												24.5			0			1	33		2	1						
12			00	127	06	5	00	10	98	02	0	2995			22												24.9			0			1	33		2	1						
12			00	125	12	2	08	08	98	02	0	2987			22												26			0			1	/		/	1						
12			00	122	18	8	02	07	98	03	2	2996			25												26.5			0			1	33		2	1						
13			00	120	~~24~~ 00	3	03	7	99	01	1	2994			25												27.0			0			1	33		2	1						
13			00	117	06	8	05	09	98	00	0	2993			25												26.4			0			1	33		2	1						
13			00	115	12	2	23	10	98	00	0	2986			25												26.4			0			1	/		/	1						
13			00	112	18	3	05	12	99	16	0	2993			25												26.0			0			1	33		2	1						

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL
☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS *(American addresses preferred)*

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES
☐ N. ATLANTIC – U.S. INTERCOASTAL
☐ N. PACIFIC – U.S. INTERCOASTAL
☐ S. ATLANTIC – U.S. INTERCOASTAL
☐ S. PACIFIC – INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE
☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*
☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN

NAME OF CAPTAIN

COUNTRY OF REGISTRY

CALL SIGN

VOYAGE FROM

TO

MONTH 19

BAROMETER NO.

WB FORM 615-5 (8-63)

U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (√) TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
   d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. **Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with the letter X indicating missing data. Omit code group 8 and 9 in message if no data are available.

1 DAY OF MONTH (G.C.T.)	2 DAY OF WEEK	POSITION OF SHIP 3 OCTANT (0-3, 5-8)	4 LATITUDE (Degrees and tenths)	5 LONGITUDE (Degrees and tenths)	6 TIME (Nearest hour 00-23 G.C.T.)	7 TOTAL CLOUD AMT. (Coded) (0-9)	WIND 8 DIRECTION (True) (00-36)	9 SPEED (True-knots) EST. ☐ MEAS ☐	10 VISIBILITY (Coded) (90-99)	WEATHER 11 PRESENT (Coded) (00-99)	12 PAST (Coded) (0-9)	PRESSURE 13 CORRECTION BAROMETER AS READ (in., mb., or mm.)	14 DATE COMPARED BAROMETER CORRECTED (mb.)	15 CODED Sea Level (mb.)	16 AIR TEMP. (Rounded)	TEMPERATURE 17 DRY BULB (Degrees and tenths)	18 WET BULB (Degrees and tenths)	CLOUDS (Coded) 19 AMOUNT OF LOW CLOUD N_h	20 TYPE C_L (0-9)	21 HEIGHT OF LOW CLOUD h	22 TYPE C_M (0-9)	23 TYPE C_H (0-9)	24 COURSE OF SHIP (0-9) D_S	25 SPEED OF SHIP (0-9) v_S	3-HOUR PRESSURE TENDENCY 26 CHARACTERISTIC (0-9) a	27 AMOUNT OF CHANGE (mb. and tenths) pp	TEMPERATURE 28 SEA WATER (Degrees and tenths)	29 DIFF. AIR-SEA (-if air colder than sea)	30 DEW POINT (Whole degrees)	31 DIFF. AIR-SEA INDICATOR	32 DIFF. AIR-SEA (Coded)	33 DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed) SEA/SWELL 34 INDICATOR	35 DIRECTION (00-36)	36 PERIOD (Coded)	37 HEIGHT (Coded)	SWELL 38 INDICATOR	39 DIRECTION (00-36)	40 PERIOD (Coded)	41 HEIGHT (Coded)	42 REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO 43	INITIALS 44
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
14		1			00	7	04	12	99	53	2	2987			25												262			0			1	03			1							
14		1			06	5	07	15	99	02	1	2993			25												265			0			1	08			1							
14		1			12	2	25	16	99	02	0	2994			22												259			0			1	25			1							
14		1			18	2	16	15	99	01	1	2988			24												281			0			1	03			1							
15		1			00	1	33	15	99	53	0	2990			24												259			0			1	07			1							
15		1			06	2	05	12	99	02	0	3004			24												253			0			1	03			1							
					12																								0			1				1							
					18																								0			1				1							
16		1			00																						252			0			1	33			1							
16		1			06																									0			1				1							
16		1			12	0	35	12	99	02	0	2990			23												254			0			1	04			1							
16		1			18	4	32	07	98	02	0	2995			25												26			0			1	02			1							
17		1			00																									0			1				1							
17		1			06																									0			1				1							
17		1			12																									0			1				1							
20		1			18	3	33	05	99	02	2	2997			20												276			0			1	31		2	1							
21					00	1	36	06	99	03	0	2987			24												276			0			1	34		2	1							
21					06	0	00	00	99	03	0	2993			24												278			0			1	33		1	1							
21					12	4	23	05	99	03	0	2997			27												276			0			1	32		2	1							
22					18	5	34	02	99	03	0	2983			25												262			0			1	31		3	1							

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL	CALL SIGN
☐ S/S ☐ M/V	

MAILING ADDRESS *(American addresses preferred)*

_____

_____

_____

_____

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
- ☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
- ☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES

- ☐ N. ATLANTIC – U.S. INTERCOASTAL
- ☐ N. PACIFIC – U.S. INTERCOASTAL
- ☐ S. ATLANTIC – U.S. INTERCOASTAL
- ☐ S. PACIFIC – INDIAN OCEAN
- ☐ WEATHER SERVICE FOR MERCHANT SHIPPING
- ☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*

- ☐ SUPPLIES FURNISHED AS MARKED X
- ☐ ACKNOWLEDGED
- ☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN

NAME OF CAPTAIN

COUNTRY OF REGISTRY

CALL SIGN

VOYAGE FROM

VOYAGE TO

MONTH February 1967

BAROMETER NO.

WB FORM 615-5 (8-63)

U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (√) TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   - **a.** For the first observation of a new month.
   - **b.** At the beginning of each voyage.
   - **c.** Upon sailing from one octant to another.
   - **d.** Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. **Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with the letter X indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0-3, 5-8)	POSITION OF SHIP: LATITUDE (Degrees and tenths)	POSITION OF SHIP: LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND: DIRECTION (True) (00-36)	WIND: SPEED (True-knots) EST ☐ MEAS ☐	VISIBILITY (Coded) (90-99)	WEATHER: PRESENT (Coded) (00-99)	WEATHER: PAST (Coded) (0-9)	PRESSURE: CORRECTION (Barometer as read (in., mb., or mm.))	PRESSURE: DATE COMPARED: BAROMETER CORRECTED (mb.)	PRESSURE: DATE COMPARED: CODED Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB (Degrees and tenths)	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD	CLOUDS (Coded): TYPE C_L (0-9)	CLOUDS (Coded): HEIGHT OF LOW CLOUD	CLOUDS (Coded): TYPE C_M (0-9)	CLOUDS (Coded): TYPE C_H (0-9)	COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0-9)	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths)	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (-if air colder than sea)	TEMPERATURE: DEW POINT (Whole degrees)	INDICATOR	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL: INDICATOR	SEA/SWELL: DIRECTION (00-36)	SEA/SWELL: PERIOD (Coded)	SEA/SWELL: HEIGHT (Coded)	SWELL: INDICATOR	SWELL: DIRECTION (00-36)	SWELL: PERIOD (Coded)	SWELL: HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
22		1			00	1	02	6	79	61	6	2990			26												274			0			1	33		2	1						
22		1			06	4	16	6	90	61	6	2994			28												271			0			1	34		2	1						
23		1			12	1	02	04	90	61	6	2981			26												272			0			1	33		2	1						
23		1			18	0	02	09	94	02	6	2986			26												271			0			1	34		2	1						
23		1			00	1	15	11	94	61	6	2991			26												269			0			1	35		2	1						
24		1			06	4	15	08	93	61	6	2978			30												270			0			1	34		2	1						
24		1			12	2	16	14	94	61	6	2988			26												266			0			1	33		2	1						
24		1			18	2	09	14	99	01	6	2988			25												265			0			1	33		2	1						
25		1			00	2	07	14	98	01	6	2986			26												264			0			1	32		2	1						
25		1			06	1	10	11	95	61	5	2980			31												262			0			1	32		2	1						
25		1			12	2	12	11	97	21	1	2987			32												265			0			1	32		3	1						
26		1			18	2	22	09	94	61	6	2976			31												258			0			1	32		2	1						
26		1			00	2	17	06	95	16	1	2987			25												266			0			1	32		2	1						
26		1			06	4	19	07	94	61	5	2980			25												264			0			1	32		3	1						
26		1			12	4	22	09	94	02	1	2989			26												261			0			1	30		2	1						
27		1			18	7	23	03	98	02	2	2978			26												265			0			1	32		4	1						
27		1			00	3	20	08	98	02	1	2978			25												251			0			1				1						
27		1			06	2	23	05	94	01	2	2989			25												251			0			1	34		2	1						
28		1			12	1	31	04	93	13	2	2978			26												270			0			1	36		3	1						
28		1			18	3	16	05	90	61	1	2987			26												259			0			1	42		3	1						

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL	CALL SIGN
☐ S/S ☐ M/V	

MAILING ADDRESS *(American addresses preferred)*

_____

_____

_____

_____

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
- ☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
- ☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES

- ☐ N. ATLANTIC – U.S. INTERCOASTAL
- ☐ N. PACIFIC – U.S. INTERCOASTAL
- ☐ S. ATLANTIC – U.S. INTERCOASTAL
- ☐ S. PACIFIC – INDIAN OCEAN
- ☐ WEATHER SERVICE FOR MERCHANT SHIPPING
- ☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*

- ☐ SUPPLIES FURNISHED AS MARKED X
- ☐ ACKNOWLEDGED
- ☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN

NAME OF CAPTAIN

COUNTRY OF REGISTRY

CALL SIGN

VOYAGE FROM

TO

MONTH — May 1967

BAROMETER NO.

WB FORM 615-5 (8-63)

U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (√) TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
   d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. **Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with the letter X indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0-3, 5-8)	POSITION OF SHIP: LATITUDE (Degrees and tenths)	POSITION OF SHIP: LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND: DIRECTION (True) (00-36)	WIND: SPEED (True-knots) EST. ☐ MEAS ☐	VISIBILITY (Coded) (90-99)	WEATHER: PRESENT (Coded) (00-99)	WEATHER: PAST (Coded) (0-9)	PRESSURE: CORRECTION; BAROMETER AS READ (in., mb., or mm.)	PRESSURE: DATE COMPARED; BAROMETER CORRECTED (mb.)	PRESSURE: CODED Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB (Degrees and tenths)	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD	CLOUDS (Coded): TYPE C_L (0-9)	CLOUDS (Coded): HEIGHT OF LOW CLOUD	CLOUDS (Coded): TYPE C_M (0-9)	CLOUDS (Coded): TYPE C_H (0-9)	COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0-9)	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths)	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (-if air colder than sea)	TEMPERATURE: DEW POINT (Whole degrees)	INDICATOR	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL INDICATOR	SEA/SWELL DIRECTION (00-36)	SEA/SWELL PERIOD (Coded)	SEA/SWELL HEIGHT (Coded)	SWELL INDICATOR	SWELL DIRECTION (00-36)	SWELL PERIOD (Coded)	SWELL HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
					00																									0			1				1						
					06																									0			1				1						
28					12	1	15	09	94	23	6	2977			6												258			0			1	15		3	1						
28					18	7	11	12	99	02	1	2985			57												261			0			1	49		4	1						
1					00	8	15	11	98	23	2	2973			58												264			0			1	16		4	1						
1					06			12		03		2984			75												262			0			1	45		4	1						
1					12			11		03		2975			47												258			0			1	15		4	1						
1					18			12		04		2984			26												256			0			1	14		4	1						
2					00			11		03		2973			36												25			0			1	14		4	1						
2					06			11		02		2985			75												256			0			1	14		5	1						
					12																									0			1				1						
2					18	7	14	11	98	01	1	2987			6												253			0			1	14		5	1						
3					00				98	20	0	2977			8												255			0			1	14		4	1						
3					06	0	14	15	99	21	0	2987			5												253			0			1	14		4	1						
3					12	6	14	14	99	02	2	2982			1												253			0			1	14		4	1						
3					18	7	14	12	99	03	2	2990			24												249			0			1	14		3	1						
4					00	6	14	13	99	02	0	2980			57												278			0			1	14		3	1						
4					06	4	13	15	98	02	1	2993			54												255			0			1	14		3	1						
4					12	3	11	15	99	02	1	2989			53												264			0			1	14		3	1						
4					18	5	11	14	99	03	1	2995			27												238			0			1	11		3	1						

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL
☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS *(American addresses preferred)*

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
- ☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
- ☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES

- ☐ N. ATLANTIC – U.S. INTERCOASTAL
- ☐ N. PACIFIC – U.S. INTERCOASTAL
- ☐ S. ATLANTIC – U.S. INTERCOASTAL
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- ☐ WEATHER SERVICE FOR MERCHANT SHIPPING
- ☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*

☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN | NAME OF CAPTAIN | WB FORM 615-5 (8-63) | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

COUNTRY OF REGISTRY | CALL SIGN | VOYAGE: FROM / TO

MONTH March 1967 | BAROMETER NO.

Check (√) TEMPERATURES (COLS. 16–18, 28–30, 32–33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
   d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. **Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with the letter X indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0–3, 5–8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00–23 G.C.T.)	TOTAL CLOUD AMT. (Coded) (0–9)	WIND: DIRECTION (True) (00–36)	WIND: SPEED (True knots) EST ☐ MEAS ☐	VISIBILITY (Coded) (90–99)	WEATHER: PRESENT (Coded) (00–99)	WEATHER: PAST (Coded) (0–9)	PRESSURE: CORRECTION BAROMETER AS READ (in., mb., or mm.)	PRESSURE: DATE COMPARED BAROMETER CORRECTED (mb.)	PRESSURE: CODED Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB (Degrees and tenths)	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD N_h	TYPE C_L (0–9)	HEIGHT OF LOW CLOUD h	TYPE C_M (0–9)	TYPE C_H (0–9)	COURSE OF SHIP (0–9) D_S	SPEED OF SHIP (0–9) v_S	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0–9) a	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths) pp	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (—if air colder than sea) (Degrees and tenths)	TEMPERATURE: DEW POINT (Whole degrees)	INDICATOR	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL INDICATOR	SEA/SWELL DIRECTION (00–36) $d_w d_w$	SEA/SWELL PERIOD (Coded) P_w	SEA/SWELL HEIGHT (Coded) H_w	SWELL INDICATOR	SWELL DIRECTION (00–36) $d_w d_w$	SWELL PERIOD (Coded) P_w	SWELL HEIGHT (Coded) H_w	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
5		6			00	7	10	17	98	63	1	2990				250											240			0			1	10		2	1						
5		6			06	7	11	17	98	63	1	2996				233											237			0			1	11		2	1						
5		6			12	8	12	22	98	02	3	2989				231											238			0			1	12		3	1						
5		6			18		12	20	98	16	2	3000				232											237			0			1	12		3	1						
6		6			00	8	13	17	98	16	2	2992				237											239			0			1	12		3	1						
6		6			06	8	14	15	98	02	2	3002				238											240			0			1	10		3	1						
6		6			12	8	10	18	98	18	2	2991				222											236			0			1	10		3	1						
6		6			18	1	10	14	98	01	1	3004				249											237			0			1	10		4	1						
7		6			00	8	10	15	98	15	1	2996				238											240			0			1	10		4	1						
7		6			06	1	10	12	98	01	0	3004				246											238			0			1	10		4	1						
7		6			12	7	10	13	98	18	2	2996				230											238			0			1	10		4	1						
7		6			18	5	14	15	98	16	2	3004				255											240			0			1	14		3	1						
8		6			00	7	13	13	98	03	2	2998				238											242			0			1	14		4	1						
8		6			06	8	10	14	98	02	2	2998				245											242			0			1	10		4	1						
8		6			12	7	10	14	98	18	2	2992				230											240			0			1	10		4	1						
8		6			18	2	13	15	98	01	1	2996				256											243			0			1	13		4	1						
9		6			00	3	13	15	98	02	1	2985				246											244			0			1	13		4	1						
9		6			06	1	12	17	98	01	0	2992				246											245			0			1	12		4	1						
9		6			12	1	12	15	98	02	0	2983				242											249			0			1	12		3	1						
9		6			18	2	12	15	98	02	0	2996				253											251			0			1	12		3	1						

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL	CALL SIGN
☐ S/S ☐ M/V	

MAILING ADDRESS *(American addresses preferred)*

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CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
- ☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
- ☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES

- ☐ N. ATLANTIC – U.S. INTERCOASTAL
- ☐ N. PACIFIC – U.S. INTERCOASTAL
- ☐ S. ATLANTIC – U.S. INTERCOASTAL
- ☐ S. PACIFIC – INDIAN OCEAN
- ☐ WEATHER SERVICE FOR MERCHANT SHIPPING
- ☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*

☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED

☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN

NAME OF CAPTAIN

WB FORM 615-5 (8-63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

COUNTRY OF REGISTRY | CALL SIGN | VOYAGE FROM | TO

MONTH March 1967 | BAROMETER NO.

Check (√)
TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
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2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
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4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
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DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0=3, 5=8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND: DIRECTION (True) (00-36)	WIND: SPEED (True knots) EST. ☐ MEAS ☐	VISIBILITY (Coded) (90-99)	WEATHER: PRESENT (Coded) (00-99)	WEATHER: PAST (Coded) (0-9)	PRESSURE: CORRECTION	PRESSURE: DATE COMPARED	PRESSURE: BAROMETER AS READ (in., mb., or mm.)	PRESSURE: BAROMETER CORRECTED (mb.)	PRESSURE: (CODED) Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB (Degrees and tenths)	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD	CLOUDS (Coded): TYPE C_L (0-9)	CLOUDS (Coded): HEIGHT OF LOW CLOUD	CLOUDS (Coded): TYPE C_M (0-9)	CLOUDS (Coded): TYPE C_H (0-9)	COURSE OF SHIP (1-9)	SPEED OF SHIP (0-5)	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0-9)	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths)	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (-if air colder than sea) (Degrees and tenths)	TEMPERATURE: DEW POINT (Whole degrees)	INDICATOR	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL: INDICATOR	SEA/SWELL: DIRECTION (00-36)	SEA/SWELL: PERIOD (Coded)	SEA/SWELL: HEIGHT (Coded)	SWELL: INDICATOR	SWELL: DIRECTION (00-36)	SWELL: PERIOD (Coded)	SWELL: HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
10		6			00	6	12	12	99	02	0	2979				241											255			0			1	12		3	1						
10		6			06	0	12	16	99	02	0	2988				252											255			0			1	12		3	1						
10					12	2	12	12	99	02	0	2987				248											254			0			1	12		3	1						
10					18	1	12	13	99	02	0	2989				255											258			0			1	13		4	1						
11					00	3	12	11	99	03	1	2977				255											258			0			1	12		4	1						
11					06	0	13	16	99	02	0	2988				255											261			0			1	13		4	1						
11					12	2	13	12	99	03	1	2982				255											260			0			1	13		3	1						
					18																									0			1				1						
12					00	9	13	12	96	21	2	2997				243											261			0			1	13		3	1						
					06																									0			1				1						
12					12	7	13	16	96	21	2	2977				240											260			0			1	13		3	1						
12					18	8	11	06	97	20	5	2988				250											262			0			1	11		2	1						
13					00	7	13	07	96	20	5	2976				244											262			0			1	11		2	1						
13					06		10	06	96			2986				257											262			0			1				1						
13					12	7	08	10	97	16	2	2976				248											253			0			1	49		2	1						
13					18	2	23	16	98	01	1	2985				267											247			0			1	03		2	1						
14					00	4	03	07	99	02	1	2977				252											248			0			1	03		2	1						
14		1			12	0	23	05	97	02	0	2979				236											246			0			1	49		2	1						
14		1			18	2	22	03	98	03	0	2986				250											252			0			1	33		0	1						
					18																									0			1				1						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL
☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS *(American addresses preferred)*

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES
☐ N. ATLANTIC – U.S. INTERCOASTAL
☐ N. PACIFIC – U.S. INTERCOASTAL
☐ S. ATLANTIC – U.S. INTERCOASTAL
☐ S. PACIFIC – INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE
☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*
☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN | NAME OF CAPTAIN | WB FORM 615-5 (8-63) | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU

COUNTRY OF REGISTRY | CALL SIGN | VOYAGE FROM | TO

MONTH March 1967 | BAROMETER NO.

SHIP'S WEATHER OBSERVATIONS

Check (√) TEMPERATURES (COLS. 16–18, 28–30, 32–33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
   d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. **Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with the letter X indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0–3, 5–8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00–23 G.C.T.)	TOTAL CLOUD AMT. (Coded) (0–9)	WIND: DIRECTION (True) (00–36)	WIND: SPEED (True, knots) EST ☐ MEAS ☐	VISIBILITY (Coded) (90–99)	WEATHER: PRESENT (Coded) (00–99)	WEATHER: PAST (Coded) (0–9)	PRESSURE: CORRECTION	PRESSURE: DATE COMPARED	PRESSURE: BAROMETER AS READ (in., mb., or mm.)	PRESSURE: BAROMETER CORRECTED (mb.)	PRESSURE: CODED Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD	CLOUDS (Coded): TYPE C_L (0–9)	CLOUDS (Coded): HEIGHT OF LOW CLOUD	CLOUDS (Coded): TYPE C_M (0–9)	CLOUDS (Coded): TYPE C_H (0–9)	COURSE OF SHIP (0–9)	SPEED OF SHIP (0–9)	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0–9)	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths)	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (–if air colder than sea)	TEMPERATURE: DEW POINT (Whole degrees)	INDICATOR	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL INDICATOR	SEA/SWELL DIRECTION (00–36)	SEA/SWELL PERIOD (Coded)	SEA/SWELL HEIGHT (Coded)	SWELL INDICATOR	SWELL DIRECTION (00–36)	SWELL PERIOD (Coded)	SWELL HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_aT_a	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
15		1			00		09	16	95	51	1	2988				258											248			0			1				1						
15		1			~~12~~ 06	3	10	05	98	01	1	2983				252											257			0			1	44			1						
15					~~18~~ 12	1	09	07	98	01	0	2990				265											261			0			1	44		3	1						
16					~~00~~ 18	6	09	12	98	01	1	2981				276											265			0			1	44		3	1						
—					00																									0			1				1						
16					06		08	12	98	01	0	2984				269											270			0			1	1			1						
16					12	6	07	15	98	01	0	2986				268											269			0			1	47		3	1						
16					18	5	09	10	97	03	1	2996				286											276			0			1	49		4	1						
17					00	4	06	14	99	01	1	2984				272											270			0			1	04		4	1						
17					06	1	09	12	99	01	0	2992				272											272			0			1	—			1						
17					12	1	14	15	99	01	0	2987				267											271			0			1	04		3	1						
17					18	2	04	14	99	02	0	2992				292											271			0			1	04		3	1						
18					00	7	10	17	98	18	1	2986				240											273			0			1	10		4	1						
18					06	5	04	08	98	02	2	2995				262											270			0			1	04		2	1						
18					12	9	07	15	98	13	2	2990				260											268			0			1	06		3	1						
18					18	7	04	10	95	10	2	2996				260											267			0			1	04		3	1						
19					00	6	05	03	99	03	2	2998				262											272			0			1	04		3	1						
19					06	1	26	08	99	01	1	2996				267											267			0			1	06		3	1						
19					12	7	26	09	99	13	1	2993				254											259			0			1	10		3	1						
19					18	1	26	03	96	01	0	3002				268											266			0			1	26		1	1						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_aT_a	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL
☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS *(American addresses preferred)*

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615–5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630–9
☐ BAROGRAM, WB FORM 455–12

WEATHER MAP BASES
☐ N. ATLANTIC – U.S. INTERCOASTAL
☐ N. PACIFIC – U.S. INTERCOASTAL
☐ S. ATLANTIC – U.S. INTERCOASTAL
☐ S. PACIFIC – INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE
☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*
☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Form Approved; Budget Bureau No. 41-R1258.4

NAME OF VESSEL ☐ S/S ☐ M/V D.S. JORDAN | NAME OF CAPTAIN | WB FORM 615-5 (8-63) | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU

COUNTRY OF REGISTRY | CALL SIGN | VOYAGE FROM | TO

MONTH March 1967 | BAROMETER NO.

SHIP'S WEATHER OBSERVATIONS

Check (√) TEMPERATURES (COLS. 16–18, 28–30, 32–33): ☐ °C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
   a. For the first observation of a new month.
   b. At the beginning of each voyage.
   c. Upon sailing from one octant to another.
   d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. *(Name of vessel, barometer number, etc.)*
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
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DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP: OCTANT (0–3, 5–8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00–23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0–9)	WIND: DIRECTION (True) (00–36)	WIND: SPEED (True-knots) EST ☐ MEAS ☐	VISIBILITY (Coded) (90–99)	WEATHER: PRESENT (Coded) (00–99)	WEATHER: PAST (Coded) (0–9)	PRESSURE: CORRECTION; DATE COMPARED; BAROMETER AS READ (in. mb. or mm.)	PRESSURE: BAROMETER CORRECTED (mb.)	PRESSURE: CODED Sea Level (mb.)	AIR TEMP. (Rounded)	TEMPERATURE: DRY BULB (Degrees and tenths)	TEMPERATURE: WET BULB (Degrees and tenths)	CLOUDS (Coded): AMOUNT OF LOW CLOUD	CLOUDS: TYPE C_L (0–9)	CLOUDS: HEIGHT OF LOW CLOUD	CLOUDS: TYPE C_M (0–9)	CLOUDS: TYPE C_H (0–9)	COURSE OF SHIP (0–9)	SPEED OF SHIP (0–9)	3-HOUR PRESSURE TENDENCY: CHARACTERISTIC (0–9)	3-HOUR PRESSURE TENDENCY: AMOUNT OF CHANGE (mb. and tenths)	TEMPERATURE: SEA WATER (Degrees and tenths)	TEMPERATURE: DIFF. AIR-SEA (—if air colder than sea)	TEMPERATURE: DEW POINT (Whole degrees)	DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed): SEA/SWELL INDICATOR	SEA/SWELL DIRECTION (00–36)	SEA/SWELL PERIOD (Coded)	SEA/SWELL HEIGHT (Coded)	SWELL INDICATOR	SWELL DIRECTION (00–36)	SWELL PERIOD (Coded)	SWELL HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (√) IF SENT BY RADIO	INITIALS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—
20		1			00	7	07	06	98	02	1	2995				259											279			0			1	07		3	1						
20		1			06	0	03	08	99	02	0	3002				249											259			0			1				1						
20		1			12	6	36	10	98	03	1	3000				228											252			0			1	34		2	1						
20					18	0	23	06	98	01	0	3005				232											236			0			1	49		2	1						
21					00	3	01	12	97	02	0	2998				225											238			0			1	34		4	1						
21					06	0	01	09	98	02	0	3006				225											227			0			1				1						
21					12	0	01	09	98	02	0	2998				21											227			0			1	35		2	1						
22					~~00~~ 18	2	35	10	99	02	0	2999				20											221			0			1	35		3	1						
22					~~12~~ 00	7	33	20	97	93	1	2994				17											191			0			1	34		3	1						
					06																									0			1				1						
					12																									0			1				1						
					18																									0			1				1						
					00																									0			1				1						
					06																									0			1				1						
					12																									0			1				1						
					18																									0			1				1						
					00																									0			1				1						
					06																									0			1				1						
					12																									0			1				1						
					18																									0			1				1						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	$L_aL_aL_a$	$L_oL_oL_o$	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N_h	C_L	h	C_M	C_H	D_S	v_S	a	pp	—	—	—	0	T_sT_s	T_dT_d	1	d_wd_w	P_w	H_w	1	d_wd_w	P_w	H_w	—	—	—

WB FORM 615–5
(8–63)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL
☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS *(American addresses preferred)*

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INSTRUMENTS IN NEED OF SERVICE
☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED *(Weather Bureau Office)*

ACTION TAKEN *(Check one)*
☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—681975

USCOMM–WB–DC

Jordan 12

Location Pacific O: 13°30'S 104°57'W to 14°46'S 105°W

Observer W. Balmer Date 4 March 1967 Time 0700 to 1000
1248 1823

Weather Miles 76 Hours 9.1

SPECIES	NUMBERS	REMARKS
Laysan Albatross		No Sightings
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel	5	2
White-necked Petrel		
Kermadec Petrel	7	1 light 2
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	6	1
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	4	one collected
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	12	1
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	2	
Pomarine Jaeger		
White-wing. Petrel	13	4
Murphy's Petrel	6	3
Red Phalarope	1	1
		Total Birds
		Total Sightings
		Total Flocks
		Total Species

SI-MNH-11—1-66

Jordan 12

Location Pacific O: 10°50's 104° 45'W To 12° S 104° 58' W

Observer W. Bulmer Date 3 March 1967 Time 0800 to 1100 / 1430 to 1821

Weather Miles 70 Hours 6.8

MN 11°23'S 104°51'W

SPECIES	NUMBERS	REMARKS
Laysan Albatross		No. Sightings
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel	2	2
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	2	2
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	36	23 adults 2
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	1	1
Pomarine Jaeger		
White-winged Petrel	~~1~~ 31	14
Murphy's Petrel	2	2
White-thr. S. P.	2	2
Leach's Type	4	4

Total Birds 80

Total Sightings 24

Total Flocks 3

Total Species 8

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Flocks

FF 0910- Sooty Tern 13 with Skipjack
White Tern 1
RTTB 1
WWP 6
JFP 1
1519- WWP 6 on H20

FF 1625- Sooty Tern 23 with Skipjack

Associations- besides Flocks

1705- White-winged Petrel 2
Murphy's Petrel 1

Birds per sighting	Birds	Occurrence
Sooty Tern	13	1
	23	1
White-winged Petrel	1	6
	6	2
	2	5
	3	1

Jordan 12

Location Pacific O: 8°16'S 104°57'W to 9°42'S 104°50'W

Observer W. Bulmer Date 2 March 1967 Time 0630 to 1030 1345 1820

Weather Miles 86 Hours 8.6

MN 8°58'S 104°54'W

SPECIES	NUMBERS	REMARKS
Laysan Albatross		No. Sightings
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel	1	1
White-necked Petrel		
Kermadec Petrel		
Tahiti ~~Phoenix Island~~ Petrel	1	1
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	4	3
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	2	2
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	29	9 adult - 20? 3
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	5	3
Pomarine Jaeger		
Shear-Petrel	1	1
Leach's Type	6	4
White-winged Petrel	5	5
Wh-Thr Storm Pet	4	3
Red Phalarope	3	1

Total Birds 61

Total Sightings 24

Total Flocks 2

Total Species 10

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Flocks

0825- Sooty Tern 7 S adult

1527- Sooty Tern 20 feeding
J. F. Petrel 1
White Tern 2

Associations besides Flocks

1709- White-winged Petrel 1
White-Thr. Storm Petrel 2

Birds per Sighting

	No Birds	Occurrence
Sooty Tern -	7	1
	2	1
	20	1
White Tern -	2	2
	1	1
Leach's Type -	3	1
	1	3

Jordan 12

Location Pacific O: 5°37'S 105°07'W To 6°52'S 105°02'W

Observer W. Bulmer Date 1 March 1967 Time 0700 to 1100 / 1330 to 1820

Weather Miles 75 Hours 8.8

MN 6°13'S 105°05'W

SPECIES	NUMBERS	REMARKS
Laysan Albatross		No. Sightings
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	4	3
Bulwer's Petrel		
Leach's Storm Petrel	3	3
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	9	adults 1
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	2	2
Pomarine Jaeger		
White-winged Petrel	2	2
Pterodroma	1	1
Phalarope	1	1
Leach's Type	9	7

Total Birds 31

Total Sightings 18

Total Flocks 1

Total Species 6

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Flock
0800- 9 Adult Sooty Tern Headed SE

Associations

1012- 1 Leach's
1 Black-winged Petrel

1047- 2 Black-winged Petrel
1 White-winged Petrel